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ORIGINAL ARTICLES.

A CASE OF FRACTURE OF THE BASE OF THE SKULL, WITH LOSS OF BRAIN SUBSTANCE THROUGH EAR; RECOVERY.¹

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OF CINCINNATI.

On the morning of November 30, 1883, a well-developed man, about thirty-eight years of age, was brought into the Cincinnati Hospital in a semi-unconscious condition, unable to remember the cause of his injury or to give any account of himself. It was only by repeated and persistent inquiry that his name could be obtained, and after giving this he would immediately relapse into a drowsy stupor, from which he was not easily aroused. There was a slow but continuous flow of blood from the left ear. Lodged in the concha and in the external auditory canal, a small mass of white tissue, apparently nervous in character, was found; and on the pillow lay another small quantity, similar in character, which had escaped from the ear. These specimens, aggregating about one drachm in weight, when subjected to a microscopic examination, revealed the presence of nerve fibres, myeline drops, and what appeared to be roots of nerve cells; pus cells were abundant in the field. The respirations were full, numbering 20 per minute; temperature $99\frac{1}{2}^{\circ}$ F., pulse 80. The pupils were active and responded normally to the stimulus of light. No perceptible paralysis of the face or extremities existed.

In the evening of the same day, the condition of the patient was unchanged; the same stupor prevailed and intelligence was no more manifest when he was aroused. The character of the discharge from the ear had changed from that of blood to a clear serous fluid with a slightly sanguineous tinge, which escaped so persistently and continuously that it was necessary to change frequently the cloths which were applied to the part, and supply him with a dry pillow. Pulse 80, temperature $99\frac{1}{2}^{\circ}$. Breathing quiet and natural; urine had been passed in bed; bowels had not been evacuated.

Dec. 1.—Pulse 80, temperature 99° , respiration 20. General condition was unchanged. The discharge of fluid from the left ear continued. After an enema of castor oil and water the bowels had been freely evacuated. Patient partook of some milk and beef essence during the day; in the evening he became very restless, and gr. xv chloral and gr. xxx bromide of potash were administered.

2d.—Pulse 80, temperature 98° , respiration 20. General condition remained the same; he breathed

quietly through the nose unless he was aroused, when the breathing was through the mouth with puffing of the cheeks, the nearest approach to stertorous breathing that had been noticed. A considerable obliteration of the folds of the left side of the face, and a deviation to the right side indicated a facial paralysis of the left side which had appeared in the night. He could not be induced to protrude his tongue or to respond to questions, but partook of some nourishment in the form of milk and beef essence. Pupils were active and symmetrical. Urine withdrawn by the catheter. No paralysis of the limbs existed at any time. The fluid that continued to escape slowly from the ear was almost colorless and perfectly clear.

3d.—A slight improvement was noted; he became more rational, was more easily aroused, took notice of objects around him, and recognized his wife. When requested he protruded his tongue, which did not deviate towards either side. He complained of headache. The dose of potassium bromide and chloral, which had been administered every evening, was discontinued, and gr. j calomel given every three hours, and as much beef essence and milk as he would take.

5th.—The discharge from the ear had become very slight and resembled water. Pulse 88, temperature $98\frac{1}{2}^{\circ}$. In the evening he was quite restless but brighter. Facial paralysis of the left side continued. Micturition normal; bowels constipated.

6th.—The patient's pulse was weak; he had passed a very restless night, having been delirious at times and having frequently attempted to leave his bed and the room in which he was confined. It was necessary to secure him and to place him under the influence of chloral. The calomel was discontinued and one-half ounce of whisky was ordered to be given every four hours. Pulse 84, temperature 98° . In the evening he was again improved, and much more rational and intelligent. Pulse was stronger.

7th.—He was much brighter and had slept well. No delirium. Micturition normal, bowels constipated. No discharge from the ear.

From this time he began to improve steadily, rationality returned slowly, and he gradually regained his memory and intelligence, but was unable to recount the circumstances attending his mishap. The facial paralysis of the left side had disappeared by December 10th, and a purulent offensive discharge from the left ear was noticed.

An examination of the ear, December 11th, revealed the fact that the superior wall had been pushed downward to such an extent as almost to close the canal; a fissure could be seen in the membrana tympani extending from the upper part down to the umbra. The hearing of the affected ear was somewhat impaired on account of the acute otitis media that was present.

The patient was discharged on December 12th, at

¹ Read before the Cincinnati Academy of Medicine, April 20, 1885.

the urgent request of friends, and passed from my notice, although subsequently very correct information was received from his wife concerning his mental and physical condition. The time which he spent at the hospital is a blank to him, but his memory is now so much improved that he remembers some important incidents connected with his injury. He declares he was struck on the head by some one whom he did not see, and thinks he was dragged to a railroad track by the same person. His intellectual faculties have all improved, but at times his speech is rambling, and he is inclined to talk incessantly of past events. For two or three months after leaving the hospital, he experienced severe vertigo, especially when performing suddenly any lateral movement. Ptosis of the left eye was noticed about two months after his discharge, and occasionally he has some pain in the left side of the face. No paralysis of the face is present now.

This case affords several interesting points for consideration, chief among which is the escape of brain substance from the ear. There was no doubt as to the nature of the injury after the examination of this substance; but even before this, the copious hemorrhage from the ear dispelled the thought that the blood might proceed from a ruptured membrana tympani.

The hemorrhage from the ear must be profuse, and continuous for a considerable length of time to afford certain evidence of the existence of fracture involving the petrous portion of the temporal bone. On the other hand, the absence of this sign, hemorrhage from the ear, does not necessarily indicate absence of a fracture implicating the petrous portion of the temporal, and even opening up the cavity of the tympanum; for it is well known that in such cases blood may pass into the mouth through the Eustachian tube when the injury has not caused a rupture of the membrana tympani.

The cases of fracture of the petrous portion of the temporal bone with the escape of cerebro-spinal fluid and brain substance are rare, and of four cases that were found on record only one terminated successfully.

Guillemeau, in 1779, reported, in the *Journal de Medicin.*, tome iii. p. 454, a case of fracture of the base with protrusion of brain matter through the ear.

De Gislain, in 1843, recorded, in the *Annales de Chirurgie*, tome viii. p. 229, a similar case of profuse hemorrhagic flow from the ear, together with particles of brain substance.

Mr. Prescott Hewett mentions a case that he saw in St. George's Hospital in October, 1856. "The accident was caused by a fall from a great height;" and in the blood that flowed profusely from the left ear, were mixed minute portions of brain substance, and two or three pieces of the white substance of the brain as large as peas were lying in the meatus externus. These cases were all fatal.

Surgeon Lockwood, U. S. N., reported, in the *Am. Journ. Med. Sciences*, for April, 1859, a case of recovery after a severe injury of this kind. "The patient, a seaman, æt. 30, fell from the spar to the main deck of the ship and struck fairly on the vertex." There was copious and continuous bleeding from the

right ear and nose, the quantity of blood that escaped being estimated at fifty or sixty fluidounces. With the blood were several small pieces of brain matter. On the following day a fluid of watery character was flowing from the ear, and several particles were found in the meatus which, on examination, proved to be brain matter. The patient was comatose for two days, and then became delirious, but in five weeks after the date of the injury he had recovered and returned to his duty.

The cases reported, in which portions of brain matter have escaped from the vault of the skull after severe injury, are much more numerous than the class of injuries just considered, in which loss of brain substance occurred through an opening in the base; and the liability to a fatal termination in accidents of the former class is much less than in the latter, for the reason that the seat of the injury is much further removed from the important and vital centres lying at the base of the brain. At least 112 accidents of this kind, varying in severity, have been reported, and of this number 81 recoveries were recorded.

The continuous discharge of a clear, watery fluid (the cerebro-spinal fluid) from the ear was formerly regarded as the most unfavorable sign that could accompany injuries of the base of the skull; indeed, some observers (notably Robert, who had made considerable study of such injuries) accord to this symptom a fatal significance. This opinion, however, has been proven to be incorrect, for several cases of recovery, after such an accident, have been recorded. In the case recorded by Lockwood, in 1859, to which reference has been made, the discharge of a clear, watery fluid for several days, constituted a very important and interesting feature of the case. In the present case the hemorrhage from the ear was followed by a serous discharge, changing to a watery discharge, which continued slowly for several days. It seems probable, that the fluid was the cerebro-spinal fluid escaping from the subarachnoid space.

It is interesting to consider the effect of this injury upon the seventh nerve.

The fact that facial paralysis of the left side did not occur until two days after the accident, furnishes conclusive evidence that the integrity of the nerve was not destroyed by the force that produced the fracture; and it also proves that the temporary impairment of function was due to the subsequent pressure upon the nerve, somewhere in its course through the aqueductus Fallopii, either by an effusion or blood clot within the tympanum.

That the pressure was not upon the nerve before entering the internal auditory meatus is evidenced by the fact that the hearing of that side was unimpaired.

In 13 cases of fracture of the petrous portion of the temporal bone, recorded by Mr. Pick, paralysis of the seventh nerve existed in 10. In 8 of these 10 cases, the paralysis did not appear until some time between the second and sixth day; and in the other 2 cases it was present at the time of admission to the hospital.

Fracture of the base of the skull was formerly regarded as a more fatal injury than modern statistics teach us to believe. The records of the *Medical and*

Surgical History of the War of the Rebellion furnish interesting statistics of fractures of the base. One hundred and thirty-five cases of recovery from gunshot fractures of the base of the skull are reported. These cases were collected and reported by Dr. Liddell in the *American Journal of Medical Sciences* for April, 1881. Of this number 49 were in the anterior fossa; 48 in the middle fossa; 6 were cases of fracture of the occipital bone and injury of the posterior lobes of the brain; 27 involved the middle and anterior fossæ; and 5 included the middle and posterior, fracturing the occipital bone.

In the case under consideration the injury to the skull must have existed principally in the middle fossa. There was a fracture, probably implicating the anterior surface of the petrous portion of the temporal, somewhere between the eminence for the superior semicircular canal and the line of union of the squamous and petrous portions. This seems to be indicated by the fact that the superior wall of the auditory canal was pushed downwards, so that the canal was partially occluded. The middle lobe of the left side of the brain was probably wounded in the neighborhood of the middle temporal or inferior temporal convolution; and from this part the extruded particles of brain substance must have escaped. The line of fracture may have passed into the posterior fossa, involving the posterior surface of the petrous bone; but of this there was no manifest evidence.

THE CHAMBERLAND FILTER.

BY ALFRED C. GIRARD, M.D.,
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THE necessity of "sterilizing" the water we are using for dietetic purposes in time of cholera becomes more apparent, the more the proofs are accumulating that the active principle of the disease is closely connected with a germ carried in a liquid medium to the intestinal tract.

Practically, it matters not whether this is Koch's comma-bacillus, or Emmerich's spirillum, or Finckler and Prior's microbe, or a spore or several combined, whether they cause fermentation or disorganization, or whatever their mode of killing may be supposed to be. It cannot be denied that the weight of evidence in favor of the bacterial origin of cholera is becoming every day stronger, and pointing the way in which we may protect ourselves from the infection; it is not my purpose here to discuss the arguments pro and con, the remarks submitted in this paper are mainly intended for those who are more or less convinced of the danger originating in the dietetic use of water containing any of the minute organisms leading to the disorder.

Many different contrivances have been invented and patented for the purification of water, but none have succeeded in doing more than either remove the coarser elements or chemical contamination. The inventors did not know or appreciate the exceedingly minute enemy which had to be "kept out," and naturally failed to insure "sterility," a term which, in this meaning, is probably unknown to most of them.

The remedy had to originate from the same laboratory and the same brains which have enlightened us on the nature of other diseases of the same order: from a man who, during a series of years, has become intimately acquainted with the biology of these germs.

While visiting Prof. Vallin's laboratory of hygiene, at the Hospital of Val-de-Grâce, in Paris, last November, under the polite guidance of Prof. Richard, the assistant Professor of Hygiene, I had my attention drawn to several filters which had been exhibited at the International Health Exhibition at London, and were then being tested.

A filter, invented by Mr. Chamberland, Pasteur's director of laboratory, appeared to me nearer the ideal of practical sterilization than anything I had ever seen. I was looking for something of the kind. Cholera becoming epidemic in Paris,—the prospect of the disease soon reaching the shores of America—my sojourn in Germany in the midst of the heated discussions on Koch's discoveries—everything had prepared my mind to seize upon the possibility of a method of protection. I am a believer in Koch, and naturally anything offering practical exclusion of disease germs struck a ready chord.

Since then I have seen no reports of that filter. I was interested in the preparations made in this country to keep off the cholera, and, finding that they mainly tended to prevent its introduction, and lessen its chance for propagation, it appeared to me that we are still helpless in case it should lodge in our midst.

The water supply of our large cities is the result of drainage of a large surface which, sooner or later, must become infected. We cannot disinfect this water with chemicals, for such substances taken into the system in sufficient quantities will seriously threaten our own lives. Boiling is very properly recommended, because, as the Committee on Disinfectants of the American Public Health Association justly says—the boiling temperature maintained for half an hour kills all known disease germs.

But why should we use boiled germs when we can exclude them? Will our hotels supply their guests with boiled drinking water when ice is dear? Will every private family be able or care to exercise the necessary watchfulness over the cook when the hydrant is so handy? This is only an outline of what we are to expect. Carelessness of prevention against disease is the rule, and the only rational mode of guarding against infection through drinking water is to provide an apparatus requiring no watchfulness or skill, and making the use of purified water as convenient as the ordinary mode of supply.

This seems to be offered by the Chamberland filter.

Remembering the impression it made on my mind, when I first saw it in Paris, and unable to find any mention of it in any literature at my disposal, I wrote to Prof. Vallin, whose name is known throughout the scientific world as an eminent hygienist, requesting such further information as he might be able to give me, in order to have the matter in a sufficiently positive and credible shape to be laid before the profession in this country. I will quote below from his answer, which, however, really is the

essence of an article he wrote on the filters of the London Health Exhibition (*Revue d'Hygiène et de Police Sanitaire*, July 20, 1884), and of which I shall make use in this paper.

A description of the apparatus should now precede any further argument on the subject, as it will be *prima facie* evidence to every thinking mind that its claims are deserved, and thus awaken sufficient interest in the reader to persevere in the reading of this article.

The principle of the filter is to force the water through porcelain porous enough to allow the passage of the liquid, but barring that of even the minutest germs.

The apparatus consists of one or more porous porcelain cylinders, set in metallic tubes of about two inches diameter, and twelve inches length, which are in communication with the water supply,—the whole being encased in a metallic frame attached to a tap. The water enters the interval between the porcelain and metal tubes, and percolates through the walls of the former, which drain into an outlet pipe. All there is needed is a pressure of at least two atmospheres (a difference of level of about sixty feet). With this each tube will allow the percolation of about a quart an hour, and with the apparatus I examined, and which, probably, is the one intended for practical use, containing six tubes, a daily supply of about 36 gallons of biologically pure water can be obtained.

A few experiments related here will fitly illustrate the thoroughness of filtration :

Putrefying liquids filtered in this manner into a sterile receptacle have been preserved indefinitely without change, when further access of bacteria was prevented.

Pasteur, in his experiments to establish that the virus of anthrax was due to the germs contained in the infectious liquids, filtered them through porcelain, the filtrate was injected under the skin of guinea-pigs without in any manner affecting their health, while a drop of the unfiltered liquids caused in every case death in twenty-four hours.

Chamberland correctly argued that what could be done with a few grammes of virus, could be achieved with a large quantity of water, it being only a question of size of apparatus.

Another convincing experiment was made by Professors Fol and Dunant, of the University of Geneva, (March, 1885, of the above mentioned *Revue*). In their examinations of the water of Lake Geneva, on the effect of prolonged repose of the water upon its biological contents, they found a cubic centimetre of the water which most frequently was stirred up to contain 150,000 germs. Being grafted on meat gelatine, one-tenth of a cubic centimetre of this water produced 5300 colonies at a temperature, too, when the gelatine remained solid, and only 4 per cent. of the germs multiply.

This water was filtered through the Chamberland filter, and, the gelatine, treated similarly, exhibited not a single colony.

These examples ought to suffice as a proof that the filter will accomplish the desideratum. It is true that it does not purify the water from soluble admixtures ; but in the water furnished by the systems of our

various cities, and, having the necessary pressure, this source of pollution, if it exists, is not the cause of the diseases originating from bacterial infection.

Prof. Vallin says : "M. Chamberland's filter realizes, therefore, with extreme simplicity what yesterday still appeared to be ideal ; it provides a water entirely freed from germs ; it could not have arrived at a more opportune moment ; it cannot be too much recommended."

As to any objections to the practical working of the filter, they are easily answered. In order to clean the apparatus it is sufficient to unscrew the bottom of the metallic tube, the external surface of the porcelain cylinder is then found covered with a thin layer of detritus ; the tube is taken out, washed in boiling water, or exposed to the flame of gas, and everything works as well as if it was new, without expense or delay.

As to the defects of the filter I cannot do better than quote Prof. Vallin's letter :

"The Chamberland filter is of great service, but has also defects. It requires great water pressure, at least two atmospheres, about 22 metres of difference of level. It filters slowly, and it is necessary to place under it a glass receptacle, holding 25-50 litres, with a stopcock, to provide always for a good supply.

"The filtration is thorough, and no protoorganisms, even of the smallest kind, can pass, provided the tubes of porcelain have been properly tested, otherwise they may have fissures imperceptible to the eye, but sufficiently large to permit a free flow of water. Sometimes the tubes are faulty, on account of being too porous, so that the microscopic germs can pass through. . . .

"I told Mr. Chamberland he should not allow any apparatus bearing his name to be sold without their first being tested by the manufacturer. I believe he will watch the manufacturer carefully, for you know that Mr. Chamberland is a very distinguished savant ; he is the director of Pasteur's laboratory, and has been associated with Pasteur in most of his researches on anthrax and hydrophobia ; he is Professor of Physics, Doctor of Sciences, and graduated among the first from our superior Normal School."

I have drawn the attention of a New York importer to the advantages of the Chamberland filter, and doubtless a number of these filters will soon be brought to this country and exhibited. As to their cost, I know only that the porcelain tubes are about three francs apiece in Paris. Whatever it may be here, it will probably be within the means of those who believe that it will protect their lives.

To recapitulate, I may safely assert that, in his filter, Chamberland has supplied the civilized world with a convenient apparatus, requiring no particular care or ingredients and providing, with the usual water pressure of hydrants, a sufficient supply of biologically pure water.

FORT PORTER, BUFFALO, N. Y.

OBSERVATIONS ON THE USE OF BOROLYCEIDE.

By S. MAC. SMITH, M.D.,

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In the wards of the Germantown Hospital and Dispensary this comparatively recent compound, "boroglyceride," has been employed with such decided success and encouragement that, perhaps, to

state some observations on the use of same will be of interest to the profession.

Boroglyceride is a marked hæmostatic, antiseptic, deodorant, and germicide, and prevents and arrests fermentation and putrefactive changes.

When applied to wounds, mucous membranes, etc., there is usually experienced a smarting sensation, which quickly subsides; it frequently renders a previously painful wound absolutely painless.

If, after minor amputations, the flaps be turned back, a 25 per cent. solution applied freely, and the edges of the wound coaptated nicely, capillary hemorrhage will be found to have been arrested and granulations promoted, but usually union by first intention is seen.

In anaplastic operations this agent will be found invaluable; a recent operation performed at the hospital by Dr. L. Webster Fox, will illustrate its value:

Daniel E., aged seventy years, had an epithelioma involving the entire upper eyelid; the tumor being removed, it was replaced by a large skin-graft taken from the patient's arm, and was dressed at various times with boroglyceride. When examined, on the morning of the fourth day, it was found that union by first intention, with little or no pain, nor suppuration, was the reward of this treatment; and, at the end of twenty days, the patient was discharged from the ward with a commendable eyelid.

Chronic ulcers, which have resisted the ordinary mode of treatment, have readily yielded to applications of a 50 per cent. solution of boroglyceride, being first washed with alcohol.

Have had several chronic suppurating buboes, which, the patient claimed, resisted all manner of treatment for about two years, but which promptly yielded to boroglyceride 50 per cent. solution and alcohol, used in the manner stated above.

In cases of gonorrhœa and gleet, this agent, with carbolic acid, used as an injection, will be found quite efficient and reliable. Out of ten cases treated recently, eight are pronounced cured, and the remaining two marked progress; also, where the urethra is subjected to irritation from passing a bougie, sound, etc., a weak solution used as an injection will be beneficial to allay the inflammation thus produced.

Gynecologists will also find this agent of much value in metritis, endometritis, vaginitis, leucorrhœa, etc. Boroglyceride, with carbolic acid, will render valuable service, and frequently accomplish the desired result with greater rapidity than the ordinary agents. A tampon can be left in the vagina, "first being moistened with boroglyceride" for six or eight days without becoming offensive.

Most inflammatory diseases of the skin, especially those of an itching or burning nature, are greatly benefited by this therapeutic agent.

In cases of inflammation of the throat, as tonsillitis, pharyngitis, etc., a 50 per cent. solution, diluted about one-half with water, and carbolic acid added, used as a gargle, has rendered most satisfactory results. Tannic acid may be added with advantage; great relief is also afforded in cases of acute coryza, by diluting a 50 per cent. solution one-half, and drawing it through the nares by a forced inspiration.

I have just been informed by Dr. Muller, surgeon

to this hospital, that he has preserved perfectly pathological specimens for four years, and will probably remain as such for an indefinite time.

The ointment of boroglyceride, "unguentum boroglyceridi," appears especially adapted to, and efficacious in, the treatment of ocular diseases, more particularly, perhaps, on account of its convenient form, and being more suitable to add other ingredients. The following is the formula for making the ointment:

R.—Boroglyceride, 50 per cent. solution in
glycerine 3ij.
Vaseline 3vi.
Ol. rose q.s. M.

Heat the boroglyceride, and, while hot, add it slowly to the vaseline, stirring it constantly until thoroughly mixed.

MEDICAL PROGRESS.

COMPARATIVE VALUE OF LUMBAR AND ILIAC COLOTOMY.—M. RECLUS, at the recent meeting of the French Surgical Congress, read a joint communication of himself and M. Verneuil upon the comparative value of lumbar and iliac colotomy. After reviewing the recent advances in the operation of lumbar colotomy and the operation of iliac colotomy as practised by M. Verneuil, preference was given to the latter's operation for the following reasons:

1. Lumbar anus is not less disagreeable nor better tolerated by patients than that of the iliac region; and the iliac anus is, moreover, under the hand and eyes of the patient, who thus is enabled to pay much attention to himself and to preserve the strictest cleanliness.

2. Hernia of the mucous membrane is not more frequent in the anus of Littre than in that of Amussat; it is due to the extent of the intestinal incision, and may disappear altogether by progressive destruction of the artificial anus—a process which takes place as frequently in one operation as in the other.

3. The union of the intestinal loop after suture to the cutaneous wound does not prevent fecal matter from passing to the lower end of the bowel after the operation for lumbar colotomy, or after the operation for iliac anus; but, in the latter, the lower orifice permits thorough washing of the rectal segment.

4. The sigmoid flexure is more easy of access, and more frequently reached in the iliac fossa than in the descending colon in the lumbar region. In general, there is too little account taken of the anomalies of that intestine in the operation of lumbar colotomy.

5. The peritoneum is not always avoided in lumbar colotomy; and a statement in the affirmative cannot be invoked as an argument for the operation. On the other hand, the mortality of operation of iliac colotomy for cancer of the rectum is only 10 per cent., a lower percentage than that of lumbar colotomy.

In view of the above argument, it is evident that the iliac anus is more advantageously located; that the operation is easier of execution, is of less gravity, and is to be preferred as a palliative procedure in cancer of the rectum, where the disease is located too high to render operative interference upon the lower extremity of the bowels possible.—*L'Union Médicale*, April 23, 1885.

OCULAR TRAUMATISMS.—DR. DEHENNE, in a short but excellent study on ocular traumatism, reaches the following conclusions:

1. Every lesion of the eye, however slight it may at first appear to be, should be examined with the greatest care. Above all, examination of the visual field should not be neglected.
2. The prognosis in every case should be made with extreme reservation. Frequently many days may elapse before the result of the injury can be determined exactly.
3. The ciliary region is a veritable *noli me tangere* of the eye. Traumatism of this region much increases the gravity of the prognosis.
4. In every instance of resulting anterior synechia there is great necessity for reserve on the part of the surgeon as to the future condition of the patient, even when the wounded eye has regained its functional integrity. Adhesion, however slight, of the iris to the cornea is a perpetual menace to the integrity of the eye.
5. Every foreign body in the eye may produce severe sympathetic inflammation. Wounds of the ciliary region frequently entail slow sympathetic inflammation of which the point of departure seems to be choroidal calcification.—*Revue de Thérapeutique*, April 15, 1885.

CARDIAC RHEUMATISM.—DR. VAISSE records an exceedingly interesting case of primary cardiac rheumatism. Study of the progress and history of the case has led him to the following conclusions:

1. Acute rheumatism may attack the heart before the existence of articular complications.
2. In primary cardiac rheumatism death may result from lesion of the heart due to such cause, though the cases are extremely rare and exceptional. In the case under consideration the cause of death was myocarditis consecutive to pericarditis.
3. Degeneration of the cardiac tissue in analogous cases may result frequently in death.

All efforts to relieve the cardiac symptoms have failed, and no remedy has succeeded in preventing the progress of the disease toward a fatal termination. Digitalis and citrate of caffeine are only temporarily beneficial, and the therapeutics of the disease are entirely unsatisfactory owing to the profound lesions undergone by the cardiac muscle.—*L'Abbeille Médicale*, April 13, 1885.

SURGICAL INTERVENTION IN BILIARY LITHIASIS.—DR. J. THIRIAR, in a paper read at the recent French Surgical Congress, expressed the following views:

It is a well-established fact that the gall-bladder is not indispensable for the regular performance of the digestive functions in man. The organ is entirely absent in many mammifera, and it not rarely happens that it is found completely atrophied in man.

If it be admitted that it is not alone in the gall-bladder that calculi may be formed, it is, however, very rare that this is the case outside of such pathological conditions which produce the formation of gall-stones in the biliary ducts and canals. These pathological conditions (cancer and obstruction of the biliary ducts) are contraindications to cholecystotomy.

The operation is very delicate and difficult to practise, but when strict attention is paid to antiseptic experience has shown the danger from peritonitis to be small. He

thinks of all laparotomies, that practised for extirpation of the gall-bladder is the least serious and dangerous, and it is an operation which is justifiable in those cases of biliary lithiasis which have resisted treatment and are attended with violent crises. As to cholecystotomy, proposed by Lawson Tait, it is more easily performed than cholecystectomy, but is inconvenient in that it leaves a biliary fistula with its accompanying dangers, and does not remove the organ in which the calculi are produced, and which are liable to be reproduced.

MERCURIC CHLORIDE OF UREA: A NEW ANTISYPHILITIC.—DR. JOSEPH SCHÜTZ, in the *Deutsche medicinische Wochenschrift*, of April 2, 1885, brings to notice a new remedy for syphilis which he claims to have used with good results. The bichloride of mercury and urea are combined in the proportion of their atomic weights, thus producing the mercuric chloride of urea. The preparation, which is used hypodermically, is said to be less unpleasant in its effects than other mercurials heretofore used. It deteriorates less rapidly than some other forms of mercury, produces less pain, and diarrhoea as a result of its injection has never been noticed. The preparation recommended is the following: 15 grains of corrosive sublimate are dissolved in 3.38 ounces of distilled hot water, and when the solution is cold $7\frac{1}{2}$ grains of urea are added. For the practical physician it is recommended that $7\frac{1}{2}$ grain portions of urea be kept and added in the required proportion to a 1 per cent. solution of corrosive sublimate as occasion may require.

OVARIOTOMY AT IMOLA AND PARMA.—DR. VINCENZO LESI performed at Imola, on the 17th of March, ovariectomy on a woman aged 54 years. The cyst involved the right ovary and the pedicle was very long. Omental adhesion was extensive and necessitated many ligatures. After the operation the temperature did not exceed 100.4° F., and the progress of the case was free from complications, with the exception of slight colic. The woman is in excellent condition.

DR. GIOVANNI CALDERINI, during the present month and in April last, performed successfully two operations for ovariectomy. In the earlier operation (in which the peritoneum was extensively adherent to the growth) he removed an enormous tubo-ovarian cystoma of the left ovary. In the second case he performed a double ovariectomy, which was rendered especially difficult by the complications presented. The first case is entirely cured, and the condition of the second woman is such as to render her recovery probable.

NEPHROTOMY.—On the 8th of March, 1885, Prof. Vincenzo Dattilo performed the operation of nephrotomy for suppurating hydro-pyelo-nephrosis.

For the successful performance of the operation resection of the twelfth rib was necessary. The case is progressing rapidly toward recovery.

LAPAROTOMY.—PROFESSOR LORETA, on the 18th of April, 1885, successfully performed the operation of laparotomy in his clinic, for the removal of a large fibroid tumor of the left ovary. The woman has perfectly recovered.—*Gazzetta Medica di Torino*, May 5, 1885.

THE MEDICAL NEWS.

A WEEKLY JOURNAL
OF MEDICAL SCIENCE.

COMMUNICATIONS are invited from all parts of the world. Original articles contributed exclusively to THE MEDICAL NEWS will be liberally paid for upon publication. When necessary to elucidate the text, illustrations will be furnished without cost to the author. Editor's Address, No. 1004 Walnut St., Philadelphia.

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SATURDAY, JUNE 6, 1885.

THE ABORTIVE TREATMENT OF TYPHOID FEVER BY MERCURIAL INUNCTION.

NONE of the measures as yet suggested to abort typhoid fever have materially influenced its treatment by physicians in this country or in England, whatever may have been the impression they have made upon the continent of Europe. The latest treatment, although a modification of the mercurial plan which has been for some time before the profession, promises results which demand for it a trial, based as it is on an experience with one hundred cases, recently published by DR. KALB, in the *Berliner klin. Wochenschr.* for January 19.

Dr. Kalb's method is to rub into the skin 90 grains of mercurial ointment, daily for six days, the first application being made to the abdomen, and at least half an hour being consumed in the friction, which must not, however, be trusted to the patient himself. On the second day the ointment is to be rubbed on the inner side of one thigh, on the third on the other thigh, on the fourth again on the abdomen, on the fifth on one of the thighs, and on the sixth on the remaining thigh. The inunction is preferably made in the evening. The ointment is not quite fresh, but slightly rancid, since it is believed that a greater uniformity of result is obtained.

Coincidentally, Dr. Kalb administers a powder containing 7.5 grains of calomel and three-quarters of a grain of opium every five or six hours, the opium being added to prevent the calomel from acting as a purge. No other medicine is given except alcohol, which is, however, administered in full doses.

The results are described as follows: On the second day the temperature falls half a degree or more, but rises again the next day to its previous

height and remains at this seven days. On the eighth day of the treatment—that is, the second day after the inunction is completed—the temperature falls to normal or almost normal, and continues thus with slight variations. Occasionally the temperature sinks to normal even during the inunction, but it is necessary to carry the treatment to its end, or the temperature may again rise.

The pulse remains for a few days at 100 to 120, though it also often falls with the temperature to the normal, or even to 60 or below. With the fall in temperature, perspiration becomes freer and shows itself especially on the abdomen and thighs. With the disappearance of fever there is a return of normal sensation; there is a mere trace of bronchitis, but the spleen remains enlarged for from ten to fourteen days.

Kalb has not neglected to compare these results with those produced by cold baths, by calomel and alcohol, or alcohol alone, and has invariably found that the inunction treatment contrasts favorably, and has been repeatedly reproached by patients who had not been anointed because they were still confined to bed, while others treated by inunction had completely recovered.

He does not claim, however, that the method is always successful, but only that 80 per cent. of those thus treated become free from fever within ten days of the beginning of the treatment. The treatment is also only efficient if adopted within the first nine or ten days, in general before the rose-colored rash has made its appearance; indeed, after this time it is useless.

While he has observed salivation, it has always been slight, and confined to transitory swelling and sensitiveness of the gums, and Kalb holds responsible for it the calomel rather than the mercurial ointment.

Our readers will not fail to have noticed that the treatment is really a combined one of stimulation with mercurials, but the results are certainly such as should not be lightly passed by. Stated with positiveness and confidence, and substantiated by so large a number of cases, it would indeed be strange if they were entirely erroneous. We strongly commend them to the attention of our readers, and as the treatment is so easily carried out, we ought soon to have an abundance of testimony bearing upon its value.

OUT-DOOR LIFE AND HEALTH.

The desire to flee the town and breathe the fresh, invigorating air of the country when spring returns to reanimate the outer world, is an irresistible and salutary prompting of our nature. City life to most persons is enervating. More or less confinement to artificially heated and badly ventilated rooms, short days and long nights, limited out-door exercise, together with the influences of the customs and conventionalities of city life, tend to depress and weaken the physical energies, and debilitate the system, so

that when the open season arrives there is a natural yearning for "pleasant fields and pastures new."

According to high authority, the body-weight is lightest, and the physical functions least vigorous towards the end of winter and in early spring. Then until midsummer there is an increase of flesh and energy, which is largely due to change of habits and food, and the invigorating influences of sunlight, fresh air, and out-door exercise. Bearing this in mind, we see how advantageous to health are all such diversions as require the open air for their enjoyment, provided, of course, that proper moderation and judgment are exercised in their use.

The old adage about "all work and no play" is quite as applicable to the mature as to the young. Both mind and body require diversion, change, and recreation, to be healthy in their functions. Continuous, undiversified application of the physical or mental energies tends to unbalance the harmonious action of the organism, and seriously interfere with the healthful performance of the functions of the system. That arrangement of the plan of life is most rational which permits of a healthful exercise of the powers of the mind and body without overtaxing the one or the other. The interrelations of mind and body are such that neither can maintain a healthful state without a sound condition of the other. Physical exercise is essential to bodily health, and, therefore, to a sound mental status. When combined with pleasure the best results are to be anticipated, and this is one of the reasons why out-door sports are so advantageous in restoring and maintaining the vigor of both mind and body.

Whatever may be the avocation or employment, it is wise to renounce it for a season to seek rest, recreation, and the restorative influences of out-door life.

The idea that the preservation of health requires an occasional relaxation from the pressure of the usual pursuits is winning its way into favor. Its influence may be seen in the reduction of the hours of toil, in the early closing of business houses, in the practice of granting summer vacations to employés, in restricting the activities of business to the early hours of the day, and in the increasing number and popularity of summer resorts. How different from the practice in vogue years ago, when even the night was trenched upon by business, and when recreation was indulged in only by the opulent.

It is encouraging to notice an increased attention given to out-door sports, some of which have become so popular as to assume a national character. Intense interest is manifested in hotly contested matches, which are publicly announced and witnessed by multitudes of spectators, who are thus induced to seek a means of diversion from their ordinary pursuits. These exhibitions foster a desire to indulge in recreation, and in this way are indirectly advantageous.

That irreparable physical injury, from excessive muscular strain and fatigue, has occurred in some instances, is not to be denied; but such mishaps are rare, and might be largely prevented if careful physical examinations were made of the contestants in all sports requiring the highest development and concentration of the physical energies and endurance, with the view of warning such persons as are unfitted for the severe ordeal, of the risk they are liable to incur. If we mistake not, some such regulation has already been adopted by one or more of our colleges, with the object of preventing, as far as possible, any serious mishaps from indulging in severe physical contests.

The lighter sports and recreations, such as are enjoyed by the multitudes, are those which afford the widest field for beneficial results. The country, the mountains, the seashore, the rivers and parks, all offer diversified and healthful means of recreation, which the denizens of cities wisely take advantage of at this season of the year. The severe strain and tension upon the system, incident to the American methods of acquiring a livelihood, make it all the more necessary to unbend the bow for a season, and give nature an opportunity to invigorate and restore the overtaxed and damaged energies of both mind and body.

In recognizing the important relation of fresh air and recreation to health, the wants of the helpless poor have not been overlooked,—such noble charities as the Children's Country Week, the Sanitarium, St. John's Guild, and kindred institutions, coming to their rescue by affording advantages which otherwise must have been denied to a large class of the population.

THE NURSING BOTTLE AND THE ÆSTHETIC FACULTY.

WHATEVER theory of æsthetics may be accepted, from Plato's to that of Oscar Wilde, many believe that the love of the beautiful has greatly lessened. In our day not even the eloquent utterances of Ruskin, calling on men to worship the beautiful in nature and in art, have had enough power to make æsthetic culture general. A few years ago Oscar Wilde believed he too had a mission, but though he invoked men and women in poetry and prose, from the press and from the platform, his words were as the voice of one crying in the wilderness; the human race moved steadily on, trampling under foot all flowers in its persistent pursuit of the utilities, though a big helianthus was waved before them in passionate remonstrance. Disappointment seems to have struck the oracular Oscar dumb, he is as silent as the grave, and no one has come to take his place, while the average man and woman plod on in life, giving more attention to justice and truth, or at least to bread and butter, than they do to beauty.

The real difficulty in the work of the reformers, the reason they have not succeeded in reviving æsthetic love, is that they have not understood the cause of its decline. Physicians are wise enough to cure disease by removing its cause, when they can, and æsthetic missionaries must adopt a like plan. We must know the source of the love of the beautiful, the fountain of the æsthetic faculty, and see whether the evil so greatly mourned does not originate there. This fountain is woman's mammary gland; if women had no breasts, there would be no love of the beautiful possible for the human race. The Amazons, those unhappy creatures who took off one of their breasts, became celebrated as athletes, but not as æsthetes.

That the female breast is beautiful we might prove by showing that it has the chief characteristics, such as its lines, color, and smoothness, which Plato indicated in *Phileus*, as essential to beauty. But this is unnecessary, and we prefer at once explaining its connection with the æsthetic faculty, which can be best done by quoting from Darwin's *Zoonomia*. Erasmus Darwin in this work, which in some respects is as remarkable as any of the productions of his illustrious grandson, Charles Darwin, tells us that soon after a babe "is born into this cold world it is applied to its mother's warm bosom, . . . which the infant embraces with its hands, presses with its lips and watches with its eyes, and thus acquires accurate ideas of its form. Its pleasure at length becomes associated with its form. And hence in our maturer years when any object is presented to us, which by its waving or spiral lines bears any similitude to this form—whether it be found in a landscape with soft gradations of rising and descending surface, or in the form of some antique vases, or in the works of pencil or chisel—we feel a generous glow of delight."

Accepting Darwin's theory of the origin of the æsthetic faculty, it is self-evident that those infants who are brought up artificially, "by hand" instead of by breast, must be deficient in this faculty. In short, the use of the nursing bottle is the cause of the decline in the appreciation of beauty.

Now we are safe in saying that a large proportion, probably not less than one-third, of babies in the so-called enlightened countries depend the first six months of their lives exclusively or partially upon "nursing bottles." Hence entire absence of the æsthetic faculty in some, and a very imperfect condition of it in others.

Those who love the beautiful, and who mourn its decline, must seek the remedy for the latter by encouraging maternal lactation, and banishing the nursing bottle, when there will be hope that the coming race will attain the poetic ideal in this regard. In an age when so much is accomplished by voluntary organizations, such as for the promotion of charity, the sup-

pression of vice, etc., there might be a society for the promotion of this object. As women do not nurse because they can not, their breasts not being sufficiently developed, or because they will not, this society would have its work divided into two great sections—one devoting itself to the culture of the moral sentiment which will compel a mother to nurse her infant, and the other to discovering the best means for cultivating mammary glands. The latter section at least would be divided into several subsections, each of these giving itself to the special study of these organs. Thus one subsection would investigate the typical form, another the embryogenic development, a third the blood-supply, a fourth the minute anatomy of the glandular structure, and thus on, while a final class, a very large one probably, would be composed of those who do not see the purpose of this article, and would be occupied with lymphatic investigation. A society with such various and elaborate breastworks would be invincible. It, of course, would be international, and could be bisected, trisected, and quadrisected—in fact, divided into so many sections that everyone could occupy an official position.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

THE annual session of this Society, which has just been concluded at Scranton, seems to have been a harmonious and in other respects a pleasant one. While no papers of great importance were read, at least two matters of business were resolved upon, which cannot be regarded as unimportant. The first of these was the passage of a series of resolutions declaring in favor of a State Board of Examiners and Licensers, independent of the Medical Colleges of the State, and the appointment of a committee to draft a bill embodying this principle, to be reported at the next annual meeting of the Society. If approved, the passage of the bill is to be secured, if possible, at the next biennial session of the Legislature, that is, in 1887. The evident majority by which these resolutions were carried shows that the profession of the State are ready for such a bill, which seems now to be required more particularly to protect them against the large number of poorly educated men who are being graduated by the extra-State schools, adjacent to our boundaries. At the same time, it is no more than fair that the graduates from the schools within the State should be subjected to the same examination.

The second resolution, also passed by a decided majority, inhibits county societies from attempting to secure legislation on matters affecting the conduct or interests of the profession of the entire State. It is evident that the initiation of such legislation should be, not with a county society, but with that of the State, in order that the profession throughout it may have a voice, and all interests be fairly represented.

SPECIAL ARTICLE.

PRELIMINARY REPORT OF
THE SECOND SERIES OF SESSIONS OF THE
GERMAN CHOLERA CONFERENCE.

SIXTH SESSION, MAY 7, 1885.

PROF. KOCH opened the Session with a demonstration of inoculations of Brieger's bacillus in guinea-pigs, and of pure cultures of comma-bacilli obtained from the intestines of guinea-pigs shown the day previous. He then resumed the debate, which he said had simplified the subject, for the points of difference between himself and Prof. v. Pettenkofer were diminished by the latter's conceding the influence of traffic and the existence of personal immunity. Prof. Koch, in return, did not entirely deny the influence of humidity of the soil—especially in the upper layers, where organic matter undergoes decomposition—upon the origin of an epidemic, but this condition is only one, and not the foremost, of many factors. Thus, local immunity, which is the sum of very complex conditions, as was shown for example at Lyons, is not explained by it solely. In India, there is only one place of immunity from the disease, and this is the town of Mooltan, which is situated in the desert.

He then adduced further examples to show that intercourse with cholera patients is not without danger. The dangers arising from ship traffic do not depend on the extent of the epidemic on individual ships, but on the number of vessels attacked; and this is comparatively great.

PROF. KOCH then directed attention to the third point proposed for discussion. He held that there is no authentic fact by which the transference of cholera by means of the air can be proved. Such an influence might exceptionally occur, but ordinarily the only influence exerted by the air upon an epidemic of cholera is by the fact that in moist air the infecting principle remains active for a longer time and dies quickly in dry air.

Soil can exert an influence upon the spread of cholera, but this is physical, and not geological, in its nature. Clayey soil, according to the hitherto accepted opinions, should afford some protection against the disease; but examples were cited by the speaker to prove that such protection does not always exist. Ground water can give no index of the extension of cholera, as was shown by marked examples from India, Egypt, Paris, Genoa, and Naples. The important condition in the soil as relating to the disease, is the decomposition occurring in the upper strata. Prof. v. Pettenkofer has declared three factors— x , y , and z —necessary in order to produce an epidemic, and Prof. Koch asked whether the bacillus represents the " x " or the " y " of the theory.

Drinking water has at all events some significance. A certain percentage of individuals will, through pure water, be protected from cholera. This fact he demonstrated by charts and tables, from Calcutta, especially Fort William, and from Bombay, Madras, Nagpoor, Pondicherry, Alexandria, and Cairo.

DR. GÜNTHER declared that in Saxony, during the epidemics of 1865, 1866, and 1873 physicians, nurses, transporters of the sick, and gravediggers, exhibited no higher mortality than the average among the general population. Laundresses of infected linen, as in 1865 and 1866, suffered a higher rate of mortality, but not in 1873, and in this connection it is to be remembered that in 1865 and in 1866 they were able to take the linen of deceased patients. He adduced further examples from Elsterberg and Gerbergasse, in Dresden, which seemed to favor the opinion that protection from the disease is afforded by clayey soil. The acme of the cholera epidemic in Saxony, in 1873, coincided with the height of the temperature of the soil at the depth of thirty-nine inches.

PROF. V. PETTENKOFER then read a paper entitled "The Drinking Water Theory and the Immunity from Cholera at Fort William in Calcutta." He pointed out that, according to Dr. Mouat, not only by the opening of a new water supply, but by further and exceedingly comprehensive hygienic measures, through which the sanitation of the soil was accomplished—the cholera epidemic at Fort William had been brought to a close; and the same had been claimed in other places, where improvement in the water supply had been regarded as the cause of the disappearance of the cholera; but more careful scrutiny had shown that the supposition was erroneous, or that many other hygienic measures of a different nature have coöperated to produce the effect. Pure drinking water *per se* is not a specific protection against cholera, and he considered it important to explain this, since, if the introduction of a pure water supply has been accomplished, our people will consider that sufficient has been done towards prophylaxis, and thus neglect the more important considerations of soil sanitation, even apart from an epidemic.

SEVENTH SESSION, MAY 8TH.

PROF. V. PETTENKOFER continued the discussion by saying that when he had proposed to consider the ground water as an index of cholera, he had not particularly meant the rise and fall of the ground water, but only the variation in the humidity of the soil overlying the ground water, occasioned by the rising and sinking of the water level. These variations only had any etiological value, and only such wells as do not vary from other causes could be used for measurement; for example, not those whose condition plainly depends on the height of the neighboring river. He postponed his further reply to Dr. Koch's criticisms until another occasion, since he had not at hand the data referring to many of these, and time did not allow of his considering them all.

DR. FRÄNKEL said that since the communications concerning the life duration of cultures of the comma-bacillus had clearly established the winter latency of an epidemic, there remained of the reasons advanced by Prof. v. Pettenkofer against the view that the comma-bacillus is the cause of cholera, only this, viz., that by the life peculiarities of the comma-bacillus the epidemiological laws of the local and

periodical characters of cholera epidemics cannot be explained. But this difficulty might be easily overcome, if we once admit the comma-bacillus to be the cause of cholera. It traces the cause of an epidemic to something outside the human body, with certain special conditions, which we designate as local and periodical, in addition. He asked Prof. v. Pettenkofer if, in what is known of such conditions, there are any facts which preclude the acceptance of the theory that the comma-bacillus is the cause of the disease.

PROF. V. PETTENKOFER replied that such conditions depend upon:

1. The physical peculiarities of the soil (permeability).

2. Its humidity, and the variations therein.

3. Its impregnation with organic matter.

He could only recognize the comma-bacillus, or any bacillus which bacteriology considers the cause of cholera, as the special virus of the disease, and have all doubt as to its causative influences removed, when it is proved that the microorganism in question answered to the epidemiological facts of local and periodical conditions of the disease. For this it is necessary that, like the virus of malaria, it have a relation to the soil.

PROF. VIRCHOW said that when Prof. v. Pettenkofer began his studies upon cholera, it was presupposed in Munich that a fungus was the cause of cholera, but through Thiersch's experiments upon white mice the idea was brought forward that the virus was developed later in the dejections. Although these experiments have been shown to be erroneous, yet Prof. v. Pettenkofer has not abandoned the idea of this late development of the cholera germ. In the investigation into the various conditions in which fecal products were concerned, the soil naturally occupies great prominence, and in this connection the labors of v. Pettenkofer had given much information. But while he gave deserved recognition to these investigations, nevertheless, he could not understand their exclusive standpoint. Why could the matter which causes cholera, and which is present in the soil, pass into drinking water? Theoretically, no objection can be made against this supposition. In practice, the somewhat crude question presents itself, to wit, whether improvement in drinking water is able to limit an epidemic of cholera. But there are many kinds of impurity in drinking water. If, in opposition to the experience advanced in this connection from Fort William, Calcutta, by Prof. Koch, Prof. v. Pettenkofer objects that other sanitary changes were effected, it must also be inquired whether they also were of value. Through the introduction of good drinking water, the drainage was also improved, and both, without doubt, exerted a favorable influence. What obtains in cholera is true also of typhoid fever. Thus, for example, the introduction of drainage produced a sudden and permanent reduction in the frequency of typhoid fever in Halle, and the buildings supplied with good drinking water remained free from the fever.

Yet it does not follow that typhoid fever and cholera are in no wise connected with the soil. It is

established that the comma-bacillus can exist in water, and were another fungus allowed to be the cause of cholera, this same must be proved of it. By subsoil water he does not understand, with Prof. v. Pettenkofer, the water which oozes through the upper strata. In Berlin, for example, the water courses only to a moderate extent impregnate the soil, while the water they contain comes mostly from more remote and elevated regions. The subsoil water is a uniform substance, and it is impossible to draw distinctions in it. He had always maintained that only in the uppermost layers of the soil can fungi obtain their nourishment; and this was important, since every kind of impurity could not be drained off. According to the investigations made by Dr. Babes, in the Pathological Institute, the comma-bacillus, in the struggle for existence with other bacilli—*e. g.*, the putrefaction bacillus—was speedily stifled, and, therefore, it was dependent upon special and distinct conditions, whereby it can thrive. Further investigations, which must be made in connection with the ground water, drinking water; linen, etc., are required to give decisive information concerning how the bacillus could best thrive. A personal predisposition to cholera is not to be disputed, and in this relation it is important to consider that the occurrence of cholera usually takes place at a period of digestion, in which the contents of the stomach are more quickly passed into the intestine, and thus a living organism may reach the more deeply situated portions of the intestine, without being long in contact with the acid chyme of the stomach. He must also attribute some importance to the influence of the air. Thus by the simple handling of linen moist particles could be dispersed in the air, and thence enter the mouth.

PROF. KOCH said that he had much to say against the views of Prof. v. Pettenkofer, but on account of the necessity of concluding the Conference to-day, he would postpone his observations until another occasion.

The fourth point in the discussion was then considered, *viz.*: *Practical considerations in connection with the measures to be taken against cholera.*

PROF. KOCH summarized the principal measures which may be instituted against cholera under the following heads:

1. General measures which directly destroy the infective principle. Disinfection of the discharges. Destruction, or thorough disinfection of linen, etc.
2. Sanitary measures to remove the infectious matter from the neighborhood of the population. Drainage and care to obtain good water for drinking and household purposes.
3. Intelligent supervision of communities, so as to diagnosticate the earliest cases of the disease immediately, and thus to nip the epidemic in the bud. The sick must be isolated, or at least so dispersed that the transmission of the disease by the infecting germs may be avoided. Houses in which the disease occurs should be vacated, *i. e.*, the unattacked must be removed, and be kept under close observation.
4. Instruction of the public so as to allay their fears, and they must be warned of the danger of using infected food, *e. g.*, uncooked food, unboiled water, and especially of the dangers arising from the use of infected linen.

PROF. GÜNTHER called attention to the fact that, in the present status of our knowledge, it is very difficult to say what water is dangerous to health, and in what cases the wells should be closed.

PROF. KOCH said that no general rule could be laid down. It is, however, not only necessary to take into consideration the chemical properties of the water, but also to discover how many, and what kind of microorganisms are present in it.

PROF. GÜNTHER alluded to the supervision of railroad travellers. This he held to be difficult and often impossible of execution, and of doubtful advantage.

PROF. KOCH held that the provisions in this relation must be conceived in a humanitarian sense, as a general measure for the protection of the patient himself, and in the interest of his fellow travellers.

DR. S. NEUMANN called attention to the fact that the premonitory diarrhoea is excluded from control and yet must be regarded as cholera.

PROF. KOCH agreed, provided that the comma-bacillus was present in the dejections.

PROF. KÖHLER, in view of the strict control of maritime traffic, would like to support a practicable revision of railway travel without embarrassment to travellers, so that charges may not be brought against the authorities of neglecting precautions for the protection of travellers on land.

DR. MEHLHAUSEN urged the importance of keeping clean the water-courses. This is important not only for the larger but for the smaller streams whose waters are in general use.

DR. EULENBERG adduced examples in this connection, and cited the spread of cholera through the Saltzbach in Wiesbaden, and the Schwartzbach in Liegnitz.

PROF. VIRCHOW said that, according to the investigations of Prof. M. Wolff, all bacilli could be killed in the portable disinfection apparatus of Bacon. This apparatus can anywhere be easily used. The Town Council of Berlin built, in a very short time, stationary disinfection establishments, but in many cases a portable apparatus would succeed well. The isolation of cholera patients, since they undoubtedly can transmit the disease, is necessary. Land quarantine under the complex regulations of commerce is impossible, and in practice is no longer a question for discussion. One could, however, not censure an insular people if they sought to protect their island from the plague by insulation.

PROF. KOCH held that thorough drying is useful for disinfection. On every side his observation is confirmed that the comma-bacillus is quickly destroyed by drying. When disinfection through hot steam and carbolic acid, from any cause, is not practicable, he recommended the application of thorough drying for the destruction of the infectious principle. For example, in the disinfection of dwellings and furniture the drying process can be hastened by keeping-up fires in the rooms. In some way it is always possible to obtain at least thorough dryness. Fresh whitewashing with lime, in other cases, will suffice. In reply to the question of Dr. Pistor, Prof. Koch said that corrosive sublimate also destroys the

comma-bacillus, but he did not, however, recommend this agent as a disinfectant on a large scale.

PROF. V. PETTENKOFER maintained that general directions which aim at the isolation of cholera patients, at disinfection, etc., do not determine whether the cholera will appear in a place or not—or whether the epidemic will be mild or severe. He acknowledged, however, that something must be done for the reassurance of the people.

DR. KERSANDT warned the authorities against inaction in the presence of an outbreak of an epidemic. The interests of the State demand that the public should feel that protective measures were taken. This is the best means to reassure them. The State can do much to guard against the transmission of cholera—the sick must be isolated so far as possible, and the dwelling-houses of cholera cases vacated after the outbreak of the disease. Supervision must be maintained over the water supply, and nothing neglected which, in the light of experience, may be able to afford protection.

PROF. VIRCHOW said that in the years 1848 and 1849 the physicians had acted on the supposition that cholera was not contagious. The mortality in that epidemic (12 per thousand) was the greatest which had ever been experienced in Berlin. As a measure of what could and should be done, the experience of this special epidemic is more useful than the observations of epidemics in the aggregate.

DR. MEHLHAUSEN said that the bodies of patients dead from cholera should not be transported. They should be enveloped in cloths soaked in carbolic acid, and, after standing a short time above ground in thick tarred boxes, without exposure, they should be buried.

The debate of the fourth point was then concluded.

On the fifth point, viz.: *Other subjects which may be named for discussion by the participants in the debate*—no one spoke.

PROF. VIRCHOW then closed the Conference and thanked the foreign members for participating in the discussion.

PROF. V. PETTENKOFER, in his own behalf and that of Dr. Günther, acknowledged the kind reception extended to them. The Conference, he said, had a common aim, and they could all meet together, even if their opinions were at variance.

SOCIETY PROCEEDINGS.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, May 12, 1885.

THE PRESIDENT, ROBERT F. WEIR, M.D.,
IN THE CHAIR.

DR. LANGE read a paper entitled

OBSERVATIONS ON ACUTE SPONTANEOUS OR INFECTIOUS
OSTEOMYELITIS.

DR. POST, a few years ago, saw a boy, fifteen years of age, who had been stopping at some watering-place, where he was attacked with multiple osteitis affecting one arm, the opposite forearm, and one thigh near the knee. He was brought to the city within five or six

weeks, when he had a large abscess at the upper fourth of the arm, which Dr. Post cut down upon, and found necrosis at the upper part of the shaft of the humerus, and removed a piece of bone about one and one-fifth inches in length. The shaft afterwards united with the epiphysis, and formed a solid arm. The affection in the neighborhood of the knee became so serious as to require amputation.

The case was remarkable for the multiplicity of bones affected and the rapidity with which the disease pursued its destructive course.

DR. GERSTER said that the question raised by Dr. Lange as to whether early operation was capable of preventing necrosis was an interesting one, and he had had a single experience which might throw some light upon the answer to be given. About six years ago a middle-aged woman presented herself at the German Dispensary. She had a very high temperature, and her intellect was considerably clouded; but when she was shaken out of her listless condition, she said she had fearful pain in the lower portion of one of the arms, and on examination the usual signs of acute infectious osteomyelitis involving the lower portion of the diaphysis of the humerus was found, consisting of doughy, white swelling, pitting on pressure, and sensitiveness to the touch, etc. The elbow-joint was semiflexed, and contained an effusion which was not purulent, as subsequent puncture and aspiration demonstrated. The symptoms were so grave that, having the necessary attendance and having the means of moving the patient, Dr. Gerster cut down upon the bone at once, thinking that if the pus could be released symptomatic relief would follow, although he did not expect to prevent necrosis. By a long incision, therefore, he laid bare the posterior portion of the humerus, taking care not to injure the joint or the musculo-spiral nerve, and ascertained that then, three days after the inception of the disease, extensive necrosis already existed. The necrosis extended into the epiphyseal body. The periosteum was found infiltrated, and here and there discolored; the bone of a yellowish-gray color, and not bleeding when cut.

He mentioned the case to show how early necrosis will sometimes take place in these cases, and he believed that a few hours were sufficient where extensive involvement occurred and where one or more of the large vessels became obstructed. In the present case, a portion of the bone was removed by chiselling and gouging, an antiseptic dressing was applied to the limb, and the patient was sent home. He observed the case for five or six days after the operation, and then the patient was removed to a hospital, where he lost sight of her. But the fever and local symptoms, the pain especially, did disappear after this operative measure, and the woman's general condition was very much improved. It was probable, however, that suppuration followed.

With regard to early interference, it should be borne in mind how difficult sometimes an early diagnosis is. He recalled a case, which he saw in consultation, where the seat of the disease was in the pelvis, and in one of those portions of the pelvis which are not accessible to exact examination. The os ischii was diseased, and the patient was in a typhoid condition. Regarding the causation, it may be stated that he had suffered for many

years from purulent catarrh of the middle ear. Being in an unconscious condition, the patient was unable to give any account of symptoms, and only a suspicion of osteomyelitis could be arrived at until, on the third day, when a very marked and extensive oedema of one of the lower extremities developed, which was especially distinct about the upper part of the thigh, close to the pelvis, and then they felt sure of the diagnosis of osteomyelitis. In that case operative procedure was out of the question, as the disease was within the pelvis. The autopsy revealed extensive destruction of one of the os ischii, and a purulent accumulation extending to the sacrum, with purulent infiltration of all the muscles attached to the pelvis and passing down to the thigh.

With regard to the long-continued quiescence of pyogenic bacteria retained at the point of the primary osteomyelitic attack, Dr. Gerster mentioned a case observed in the German Hospital, subsequently treated by Dr. Lange, who followed him in the surgical service. A man apparently had had acute osteomyelitis at the lower portion of the diaphysis of the femur when eighteen years of age, which was followed by extensive necrosis and removal of sequestra, and finally cure within three years after the attack. The quiescence continued until he was sixty-five years of age, when the disease was renewed in the old focus. Dr. Gerster found no sequestrum, but a quantity of deciduous ulcerating granulations.

SECONDARY CARCINOMA OF THE AXILLA; AMPUTATION AT THE SHOULDER-JOINT; SUDDEN DEVELOPMENT OF HEMIPLEGIA WITH APHASIA; DEATH.

DR. L. A. STIMSON presented a specimen consisting of a tumor removed from the axilla of a woman forty-five years of age, with a history of cancer of the breast beginning at the age of thirty-five years, which had been removed three times; twice by caustics, and the last time by the knife. Four and a half years before she came under his observation, about the first of last April, she was then a thin, spare woman, in apparently good health, without cachexia, but complained of pain in the axilla, which had steadily increased and was accompanied with swelling of the right arm. On examination Dr. Stimson found in the scar, left by removal of the last tumor, one or two nodular masses, and in the axilla, the skin of which was tightly retracted, a cauliflower-like surface, moist but not ulcerated, and adherent to the tumor, which passed upward behind the pectoralis major muscle, and was quite firmly fixed to the deeper parts. There was no evidence of any glandular enlargement above the clavicle, and no signs of intra-thoracic disease. The patient was exceedingly anxious to be relieved of the tumor, but Dr. Stimson told her that it was improbable that it could be removed and the arm saved, as it so involved the bloodvessels of the axilla that if they were left only a portion of the tumor could be removed, which it was not worth while to do. A fortnight later the patient returned and asked to have the operation performed. On the 22d of April the involved skin was circumscribed by an elliptical incision, extended down the arm to expose the vascular and nervous bundle; this was traced upward until it was lost in the tumor, and then the dissection was carried over the anterior surface of the tumor until the nerves and the artery were again found coming out from the

upper part of the growth, making it evident that they had passed entirely through the mass. There were present at the operation Drs. Sands, Post, and Detmold, and at this stage of the operative procedure a consultation was held, and it was agreed by all that the arm should be removed at the shoulder, which was done, and the artery was tied just below the clavicle. All of the tumor was completely removed. The wound was closed and dressed and the patient placed in bed, when her temperature was taken and it was found to be normal, the pulse 90 and fairly good. Two hours afterward, after she had partly recovered from the ether, the pulse suddenly fell to fifty, and the patient again became unconscious. The unconsciousness continued through the night, and she constantly moved the left arm, waving it to and fro; in the morning her temperature was 102° F., and pulse 140. Although conscious, she was unable to speak, and when addressed would point to her mouth, as if to indicate inability to speak. She was hemiplegic on the right side, including the face. The patient remained in this general condition until five o'clock in the afternoon and died.

Some of the medical gentlemen regarded it as a case of cerebral embolism, but where the embolism came from Dr. Stimson was unable to say. The patient, however, had given a history of some heart trouble, the exact nature of which had not been ascertained. She had on several occasions had distress in the region of the heart with disturbance of breathing, and it was supposed that she was troubled with cardiac disease. No autopsy could be obtained.

The tumor showed the stump of the artery and nerves running through it. The loss of blood during the operation was trifling. The sudden fall of the pulse to fifty after coming from under the ether, followed by unconsciousness with waving of the arm to and fro followed by hemiplegia and aphasia, pointed very plainly to some cerebral lesion.

In reply to a question by Dr. Gerster, Dr. Stimson said there was no thrombus observed in the artery when it was divided.

STRAPPING THE TESTICLE.

DR. POST mentioned a case with reference to some details in the mode of procedure. It was one of gonorrhoeal epididymitis in which, in the subacute stage, he resorted to strapping the testicle. In isolating the cord for this purpose there is often difficulty in preventing the adhesive plaster from cutting the skin. Lint is usually interposed, and sometimes there is difficulty in keeping it in position. To obviate these difficulties Dr. Post adopted the following plan: after having the scrotum shaved and the opposite testicle drawn out of the way, he passed a roller bandage, about fifteen to twenty millimetres in width and half a metre in length, around the cord and over the upper part of the testicle, and then used a strip of India-rubber adhesive plaster about twelve to fifteen millimetres in width and half to three-quarters of a metre in length, passing it spirally over the testicle until he reached nearly the lower extremity of the organ and then applied the radiated straps in the ordinary way.

The peculiarity of the method consisted chiefly in using one long strip of plaster instead of several short

ones, and it facilitated the operation very much and accomplished the object in a much more satisfactory way.

THE PRESIDENT raised the question concerning the advantage of strapping the testicle at all. His experience was against its usefulness, and had been such as to lead him to abandon it altogether.

DR. POST said his experience had been entirely the reverse of that of the President. He did not strap the testicle in the acute stage, but when there was a disposition to chronicity he had invariably found that the pain was promptly relieved and the swelling rapidly subsided when the pressure was made in the proper manner and at the proper time. In the present case from the time of the first application there was a marked sensation of comfort to the patient, and a marked diminution in the size and hardness of the swelling.

DR. BRIDDON did not favor strapping of the swelled testicle, and had had much better results by the use of a very thin elastic bandage. In order that it may lie smoothly over them it must be very thin, and not more than an inch wide.

DR. POST thought it difficult to cover the testicle completely with the elastic bandage. He thought everything depended upon carrying out the details of the procedure, and in that respect he found a number of turns of the narrow bandage to answer a much better purpose than a single strip of lint, which is apt to crowd against the upper part of the tumor, and he had found difficulty in keeping in place the strip of lint usually employed.

THE PRESIDENT remarked that the narrow bandage was used in the New York Hospital twenty years ago, the plan of treatment being identical with that mentioned by Dr. Post, except the use of rubber plaster. His impression had been that the swelling would go away nearly as quick without it as with it, and more painlessly.

DR. POST remembered one case in which he was called in consultation; one of prostatic disease, where the use of the catheter had caused swollen testicle, and where one of the gentlemen present was a specialist in genito-urinary diseases, and a man of considerable eminence. It was determined to have the patient's testicles strapped, and this gentleman undertook it, and did it in an extremely bungling way, which did no good whatever. If well done, and done at the proper time, Dr. Post felt positive that the strapping almost always, if not invariably, proved useful.

DR. GERSTER thought the President's remark entirely correct—that is, that in most of these cases treatment by strapping is unnecessary. He believed that indiscriminate strapping or elastic compression is unnecessary, and therefore harmful. There were, however, some cases in which the infiltration remained stationary, sometimes eight, ten, or twelve weeks elapsing without improvement, and which did not yield so readily to any other method as to compression of the organ. But in general, he thought strapping of the testicle after orchitis was overdone.

DR. POST said, Suppose a person found that invariably it was a source of comfort, was there any reason why it should not be done?

THE PRESIDENT said it was a procedure which could not always be accomplished satisfactorily, even by specialists.

DR. GERSTER mentioned one complication which

may arise from strapping the testicle, namely, a disagreeable eczema of the scrotum, which is more difficult to cure than the infiltration for the removal of which it has been applied.

DR. YALE could add his testimony with reference to the frequent occurrence of eczema of the scrotum, which rendered it necessary to abandon all local treatment.

THE PRESIDENT directed attention to the fact that in the New York Hospital the House Surgeons had obtained very good success in the treatment of acute epididymitis by the use of the Paquelin cautery, making half a dozen stripes running over the swollen cord down to the middle third of the testicle.

DR. BRIDDON said he had heard of like success in the Outdoor Department of the Roosevelt Hospital.

DR. GERSTER had been unable to ascertain which had been most relieved—the pain, or swelling, or infiltration.

THE PRESIDENT remarked, that the pain was notably relieved, but the infiltration took the usual time to subside.

DR. HUTCHISON had for a number of years treated painful epididymitis by making an incision half an inch in length through the tunica albuginea, and invariably with the result of relieving the pain at once.

DR. GERSTER had treated three cases by pricking the tunica vaginalis, allowing the fluid to ooze out, this giving great relief from pain.

THE PRESIDENT had adopted the method mentioned by Dr. Gerster several times with satisfactory results, and in several instances had carried the bistoury into the tunica albuginea, but had never made an incision in it as mentioned by Dr. Hutchison. He should fear the occurrence of atrophy or eversion of the testes.

DR. GERSTER thought there was nothing more sure to relieve the pain than the application of five or six leeches to the inguinal region along the cord.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, May 18, 1885.

THE PRESIDENT, CHARLES A. LEALE, M.D.,
IN THE CHAIR.

DR. E. G. JANEWAY read a paper on

ADVANCES IN THE STUDY OF THE ETIOLOGY OF DISEASE.

When invited by the President to read a paper at this meeting, he said, he had chosen the subject of the advance in our knowledge of the etiology of disease because of some of the circumstances attending the present occasion, when the Association met in a building (the Carnegie Laboratory) which is to be devoted to the study of the anatomy and etiology of disease. No greater inducement to study exists than that innate desire for knowledge which can best be compared to the hunger for food which seizes upon the starving; but oftentimes those well adapted for research and investigation have been absolutely unable to succeed from the want of the necessary means, appliances, and place for such work. Having spoken of the encouragement afforded to those engaged in original scientific research by the Government in Germany, he said that any one in this country, unless possessing a private fortune, must give up a large share of his time and thought to

acquiring the means of subsistence, and for the apparatus and other expenses of his work; and this must be either by teaching or practice. He is thus subject to interruptions, is obliged to work at scientific subjects not when fresh and vigorous, but when weary and jaded, and hitherto too often in places little adapted to encourage work under such disadvantages. But, thanks to the liberality of the gentleman whose name this building bears, one of the great obstacles to successful labor has been overcome.

The history of medicine until within the last forty years, he continued, has contained much that has been grossly theoretical. He did not mean to deny that there were not those who had the foresight to see through the mists that clouded the scientific horizon; but they lacked the means and appliances to prove the correctness of their surmises. While it has been the merit of many gradually to lead in the pathway of a true explanation, none will deny to certain a preëminence in this respect, not alone for what they have accomplished, but also for what they have suggested, which has been the occasion of a successful result by others. In speaking of Virchow, he said that some might hesitate to ascribe to him a prominent place amongst the advancers of etiology; but without his labors and those of his pupils in ascertaining the exact anatomy of disease, and in constructing a rational explanation or theory of its recurrence, we should be far behind our present attainments. Having alluded to the indirect benefits which had resulted from the labors of Jenner in regard to vaccination, he said that the origin of the idea that a number of diseases called infectious spring from organisms which have entered from without and grow and multiply in the body, to infect others again, has probably sprung in most minds from the established instances of parasitic development as witnessed on the skin and in the interior. The objections which are urged to-day against what is called the germ theory of disease were formerly employed against the parasitic skin diseases, both as regards scabies and the fungoid varieties.

To Schwann we owe the idea that putrefaction and fermentation are dependent upon the presence of germs or vegetable organisms, and to Pasteur the dogmas that without such organisms there is no fermentation, and that for the different kinds there exist specific varieties; as well as the method and idea of endeavoring to separate the different varieties by fractional culture. Having explained the plan of procedure adopted by Pasteur, he said that after the acceptance of the belief that fermentation and putrefaction were dependent upon germs which rapidly multiplied under favoring conditions, the search after the organisms productive of infectious diseases could not be long delayed, nor the idea, which many already entertained, that in all of these disorders there must be a specific infectious agent, which might be obtained for further research, be hindered from obtaining more adherents. The proof demanded, and which Dr. Janeway did not doubt would in time be afforded in regard to all infectious diseases, is of the following character: 1. The disease-exciting germ must be found constantly present during the presence of the disease, or at least of its earlier stages. 2. It must admit of cultivation out of the body under such circumstances as to assure us of its purity. 3. Reintro-

duced into the system, it must excite in susceptible individuals the same disease phenomena. 4. In the individual so made ill by the introduction of the culture, we must again find the same germ as the cause.

In Virchow's *Archives*, vol. ii., of the year 1857, are recorded the researches, findings, and experiments of Prof. Brand, of Dorpat, who barely escaped being a great discoverer in 1856. He inoculated animals with blood taken from the cadaver of those that had suffered with splenic fever; found the peculiar organism in the blood, not only after death, but during life, found that the blood was capable of exciting the disease in others, and followed the microscopic examination of the blood for several days. He then studied the blood of animals dead of other diseases, in order to ascertain whether the organisms which he saw were common to others or peculiar to the disease in question. Unfortunately, he thought that these bacilli were vibrios and similar to the organisms found in putrefying blood; only he derived the conclusion that their presence during life or within a few hours after death in the blood was characteristic of splenic fever. Dr. Janeway said he had introduced this case because it was the disease of which later (in 1877) Robert Koch was able to trace the history, and which was the first to prove that there is a specific organism which can be grown out of the human or animal body, which can be reintroduced, the introduction of which into a wound will reproduce the disease, and which during the disease is again found in large numbers in the blood. Moreover, he found that the bacilli grew and produced spores which had a far greater tenacity of life than the bacilli, and that the secret which had puzzled others as to the reason why blood from an animal sick with the disease which did not contain the characteristic rods should yet be able to reproduce the disease; as well as to show that the earth, etc., was not necessary as a place for change, but that this development of bacilli into rods, followed by the characteristic production of spores, occurred as well on the microscopic slide, provided that air had access to the germ, that a certain temperature was maintained, and that nutrient material of a proper kind was supplied.

Previous to this time, 1877, there had already been found, by Obermeier, an organism in the blood of patients suffering from relapsing fever, which was so peculiar in its appearance that so far it has not been found in any other disease than this. The discovery of the spirillum in this disease was made in 1873, and it has been found in those affected with the disease in India, Russia, and Germany. To the origin by inoculation in human beings, the objection has been raised that the disease might have already been contracted by exposure during its epidemic existence. So far the life-history of the spirilla of relapsing fever is incomplete in that its methods of growth and development are not known with certainty, and, hence, it is urged by some recent writers that the spirilla are simply concomitant; but Dr. Janeway expressed the opinion that the final outcome of the investigations would undoubtedly be in favor of the view that these organisms are the cause of the disease manifestations, either of themselves or in their process of development.

An immense advance has also been achieved in our comprehension of the cause of many inflammations, such as abscesses, erysipelas, pyæmia, etc. Whilst the

opinions were beginning to be moulded in this regard, and prior to any established connection between micro-organisms and these states, Lister (1871), by his efforts, which had in view the prevention of the entrance of supposed disease-exciting germs, created a revolution in surgery. There are some who do not adopt Listerism in its full sense, but yet claim good results; but he who is conversant with the past knows that the disbelievers, as a rule, exercise more care as regards cleanliness in all particulars than the most careful of their predecessors. While, however, such results as have been obtained by the exclusion of air and germs do not establish a definite causative nexus between germs and inflammation, these opened the way to more active and painstaking endeavors towards their discovery and cultivation, and Koch has again proved of special service in this regard. As a result of his labors, together with those of a host of others, it has been shown that either the micrococci or bacteria are present in inflammatory processes connected with acute abscess, pyæmia, septicæmia, erysipelas, and osteomyelitis. During the past winter, Dr. Janeway on two occasions injected a cat with pus from a localized empyema occurring in a young man who had pyæmia following typhoid fever. On the first, the pus was withdrawn from the chest by exploratory puncture; on the second, it was taken at the autopsy from the pleura. The cat showed slight ill-health for a day after the first, but no marked effect after the second. The sites of the disease showed micrococci in large numbers.

Erysipelas is a disease of such a characteristic type that it is not to be wondered at that attempts have been made to isolate and develop its organism, if one there were. Schleiden has succeeded not only in showing the presence of micrococci in the disease, as others had previously done, but also in cultivating these germs and in inoculating human subjects with the culture, with the result of producing typical instances of the disease. Pneumonia in many respects resembles erysipelas, especially as regards its method of spreading in the affected tissue, its clinical course, and its comparatively sharp crisis. Patient and continued research has resulted in the recognition of micrococci. These can be found in the sputum, and Leyden has obtained them in the fluid drawn from the lung by hypodermic injection during life. It is claimed that after cultivation they may be inoculated with success in the lungs of mice. Dr. Janeway said that recently four out of five Italians living in the same shanty, at Tarrytown, sickened with pneumonia, and at the autopsy of one of these, held four hours after death, he was able to find in the red hepatization, and particularly in the pleural exudation and the lymph vessels of the pleura, numerous micrococci. For a considerable time it was difficult to think of pneumonia as one of the acute infectious diseases, but he had heard of a number of illustrations of the sickening of several people in the same household with the disease.

Having spoken of the existence of micrococci in variola, vaccinia, scarlet fever, and measles, he said that in diphtheria there was not yet that sure proof that the organisms which had been observed in the disease bore a causative relation to it. There is no difficulty whatever in establishing the presence of a gonococcus in gonorrhæa, and micrococci can be found in large numbers in endocarditis in the little so-called vegeta-

tions which form on the heart-valves in this disease. Dr. Janeway, of course, alluded to Koch's researches upon tubercle and cholera, but did not enlarge upon them on this occasion.

In numerous cases of typhoid fever, he said, a bacillus had been found, not alone in the intestine, where it is commingled with a variety of others, but also in the mesenteric glands and in the spleen. Eberth has described this, and his description has been confirmed by Koch. In five cases of typhoid fever in which he made autopsies last autumn, Dr. Janeway found it present, but with one exception the autopsies were made twelve or more hours after death. The bacilli of typhoid, he said, had been found capable of growth upon culture fluids, but it would be difficult in this way to prove the disease, as the germs would necessarily have to be fed to individuals susceptible of typhoid fever, and not exposed to its influence. The history of medicine furnishes strong arguments for the existence of a germ in this disease, and few will be found more marked than the reports of the outbreak at Plymouth, Pa., as the facts have been gathered from medical journals and from conversation with Dr. Taylor, of the New York Health Board, who visited Plymouth by order of the Board.

For typhus exanthematicus there are no known experiments as regards culture or demonstrations of the peculiar exciting agent. Dr. Janeway has examined the blood taken from a spot of skin the site of petechial rash, and has found a few micrococci separate. Leprosy has been found to contain a specific germ or bacillus somewhat resembling the tubercle bacillus in its reactions. This germ was first discovered by Hansen, and afterwards by Neisser, and has been found present in the different manifestations of leprosy. Neisser succeeded in causing a leprosy nodule to grow in the subcutaneous tissue of two dogs. These leprosy bacilli are capable of producing spores by means of which they can be reproduced. Bacilli have also been found in glanders which are capable of cultivation and reintroduction into the system of the horse, with the effect of reproducing the disease.

The subject of the connection of organisms with disease is a large one, and growing constantly. Koch has proved himself the most thorough and reliable of those who have undertaken this study, and the knowledge which has been gained will not simply be for scientific accuracy, but will avail much in our subsequent efforts to cope with disease, since nothing is more essential to a correct prophylaxis than a true etiology.

CINCINNATI ACADEMY OF MEDICINE.

Stated Meeting, April 20, 1885.

THE PRESIDENT, SAMUEL NICKLES, M.D.,
IN THE CHAIR.

DR. W. H. WILDER reported

A CASE OF FRACTURE OF THE BASE OF THE SKULL,
WITH LOSS OF BRAIN SUBSTANCE THROUGH THE EAR;
RECOVERY.

(See page 625.)

DR. RANSOHOFF gave a brief history and the post-mortem record of a case which had been under his attention, in which a fracture of the base of the skull

occurred in a woman, æt. 30, who threw herself from a window. There was extensive extravasation of blood into the eyelids and conjunctiva and vomiting of blood, but no hemorrhage from the ear. Four days after the injury the patient died. The autopsy revealed a fracture of the left frontal bone, passing backward across the greater wing of the sphenoid and the petrous portion of the temporal, opening the tympanum and exposing the ossicles of the ear. The membrana tympani was not ruptured. The case is interesting as an illustration of a small class of cases in which the tympanum is laid open, but the membrana is not ruptured, the blood passing into the mouth through the Eustachian tube.

Dr. Ransohoff cited two other cases of recovery following fracture of base of skull and escape of brain substance from the ear, which, he said, are recorded by Bergmann, and had escaped the notice of Dr. Wilder. He also thought that the hemorrhage attending injuries of the membrana tympani was not always slight and absolutely devoid of danger. As a rule it is slight, and when hemorrhage from the ear is excessive it is almost always associated with fracture of the base of the skull. Two cases, however, are reported in which hemorrhage from the ear terminated fatally, and the autopsy revealed no lesion, but rupture of the membrana tympani. Considerable speculation had been indulged in to determine the exact seat of the fracture, and he thought Dr. Wilder was hardly justified in concluding that the fracture was limited to the point he mentioned, between the eminence for the superior semicircular canal and the line of junction of the squamous and petrous portions of the temporal bone. Dr. Ransohoff also mentioned a case recorded in a German surgical journal by Fischer, which was as interesting as the celebrated case recorded by Dr. Marlan, in which a crowbar was driven through a man's head. A man, while on a hunting expedition, had an iron ramrod accidentally fired through his head. It pierced the occipital bone on the left side, passed directly through the head, and emerged in the right frontal region. The patient was brought to Hanover, where Fischer saw him, and forced the ramrod out by blows with a hammer. He made an excellent recovery.

DR. TAYLOR supplemented the previous speaker's remarks by the statement that the friends of the injured man, in their endeavors to extract the rod, had dragged him several yards over the ground.

DR. YOUNG said that, in military works, it is stated that there is no wound of the brain, however severe, that may not recover, and none so slight that may not terminate fatally. Cases in which balls have traversed the brain in various directions have recovered,—the ball being sometimes removed by trephining on the side opposite the wound of entrance. It therefore appears that patients with penetrating wounds of the skull may recover completely, or live a long time after the injury. He had met with two patients suffering from an injury of this character who had lived from the 15th of March to the 12th of April. Both had penetrating wounds with loss of brain tissue, but no paralysis or loss of consciousness. He had seen but one case recover where there was escape of blood from the ear.

He believed that many mistakes are made as to the diagnosis of the source of the hemorrhage.

Injuries to the base of the brain are naturally more fatal than are those in other regions. He had seen two men with fractures at the base of the skull who were affected with a disposition to perform rotatory movements. He remembered to have seen a negro woman who had sustained a fracture of the skull and the entrance of a piece of brick, and considerable dirt and hair, into the skull cavity. Together with this foreign material, about one or two drachms of brain tissue were removed, and the woman recovered, but with slight paralysis of the opposite side, which finally disappeared.

DR. ZENNER remarked that some of the cases are very remarkable, and yet the injuries themselves need not be considered fatal if the vital centres of the brain be not destroyed, and if subsequent hemorrhage or inflammation do not occur. The idea that such extensive injuries occur to the brain without subsequent impairment of intellect in some way is probably fallacious. Such cases, probably, never regain their former condition of intellectual power. The changes are manifested especially in the working capacity, both physical and mental, notably the latter. In a case like Dr. Wilder's, the injury to the brain is probably not limited to the exact location of the trauma, but involves distant parts of the convexity, as evidenced by the stupor and delirium.

DR. WILDER thought that his conclusions in regard to the location of the fracture were correct. The absence of paralysis of the seventh nerve until three days after the injury was proof positive that the nerve was not injured primarily. In attempting to use the ear speculum the canal was found to be almost closed by the superior wall (a condition of things which did not exist in the other ear), indicating that the force had acted diffusely from above, and concentrated upon this portion of the bone. It was not claimed that the fracture was limited to the part indicated; it may have extended in other directions, but must have existed somewhere in the anterior surface of the petrous bone, because the brain tissue escaped through the ear.

DR. RANSOHOFF said he had previously misunderstood the speaker, and supposed he had intended to convey the impression that the fracture was limited to the region of the tympanum.

MEDICAL SOCIETY OF THE STATE OF WEST VIRGINIA.

*Eighteenth Annual Session, held at Weston,
May 20 and 21, 1885.*

(Specially reported for THE MEDICAL NEWS.)

WEDNESDAY, MAY 20TH.—FIRST DAY.

THE Society was called to order by THE PRESIDENT, DR. GEORGE BAIRD, of Wheeling, and the roll call showed thirty-seven members present.

DR. A. H. KUNST, Chairman of the Committee of Arrangements, delivered an address of welcome on behalf of the profession, and HON. R. W. STERLING, Mayor of Weston, gave the Society a welcome on behalf of the citizens. THE PRESIDENT then delivered

THE ANNUAL ADDRESS,

which was largely devoted to the consideration of sanitary questions. He referred to the good work inaugurated by the State Board of Health and its late

efficient Secretary, Dr. J. E. Reeves. He condemned quackery of every form and kind, both in the regular profession and out of it, and gave some telling hits at the many mushroom specialists now abounding in every city and community.

THE TREASURER'S REPORT showed a balance of \$158.76 in the Treasury.

THE SECRETARY REPORTED

a total membership of 116. He made several suggestions which resulted in the adoption by the Society of the following resolutions:

Resolved, That it is the sense of this Society that removal from the State forfeits membership, unless the member so removing continues to practise in the State, but under the Constitution—Art. X., Sec. 3—no non-resident member is eligible to election as an officer in the Society.

Resolved, That physicians who live near the border of this State in adjoining States, and whose practice may be partly in this State, are eligible to membership.

Resolved, That the communications from the Secretary of the Nebraska State Medical Society, touching interstate representation, be referred to a special committee consisting of Drs. Kunst, Shriver, and Dickey, to report at the next annual meeting.

A communication was received from the Department of Hygiene of the West Virginia Branch of the Women's Christian Temperance Union, asking the Society to appoint a committee to report at the next regular meeting on the injurious

EFFECTS OF ALCOHOL.

The communication was referred to a committee, who reported the following resolution without recommendation:

Resolved, That a committee be appointed, as requested, to prepare a report to be read at the next meeting of the Medical Society of the State of West Virginia, on the physiological effects of alcohol upon the human system, its hygienic uses, and its influence in the formation and hereditary transmission of mental, moral, and physical defects.

On motion of Dr. Harris, the motion was laid on the table.

A paper on *The Errors of Refraction* was read by Dr. John L. Dickey, of Wheeling.

DR. JOHN FRISSELL, of Wheeling, read a paper on

SOME THOUGHTS ON BLOODLETTING, AND THE USE OF THE OBSTETRIC FORCEPS.

He thought that venesection should be practised more frequently than it has been for many years. He cited cases from his own experience, which began more than fifty years ago, showing excellent results following very free bleeding. He condemned the use of the forceps except in very rare cases. He has himself used that instrument only about half a dozen times. He thought that opium, ergot, and time will generally obviate the necessity for using the forceps, to which he attributes cervical and perineal lacerations, and vesico-vaginal fistulae.

DR. CHARTER, of West Union, stated that he had attended about two thousand labor cases, used the forceps but once, and had never lost a mother in childbirth.

The sentiment of those who spoke was in favor of

venesection in puerperal eclampsia and other unusual cases, where depletion seems desirable. It was also overwhelmingly in favor of the judicious and skilful use of the forceps, which the members thought prevented and not caused vesical and rectal fistulae.

THURSDAY, MAY 21ST.—SECOND DAY.

DR. FLEMING HOWELL, of Clarksburg, read the report of a

CASE ILLUSTRATING THE USE OF CARBOLIZED CATGUT LIGATURE IN SECURING UNION OF DIVIDED TENDONS.

The case was briefly as follows: A policeman had a cut an inch and a half long, extending obliquely across the back part of the thumb, dividing completely the tendon of the long extensor of the thumb, with its sheath. The ends of the divided tendon were at once united with fine carbolized catgut; the divided sheath was then united in the same manner, and the external wound closed. He was at once able to extend the thumb, which, of course, he could not do before. A splint was applied so as to keep the thumb extended. The wound healed promptly, and the thumb is as sound and useful as before the injury.

DR. D. PORTER MORGAN, of Clarksburg, read a paper on

OPERATIONS IN MALIGNANT DISEASE.

The subject was discussed by many of the members, nearly all agreeing with the writer of the paper in the propriety of the early removal of malignant growths, or even those of a doubtful nature, if removal is practicable.

DR. T. A. HARRIS, of Parkersburg, read a paper entitled *Mens Sana in Corpore Sano*.

A paper on *The Signs of Impending Death*, by Dr. T. R. Evans, of Nuttalsburg, was in his absence read by the Secretary.

The Society then proceeded to the

ELECTION OF OFFICERS,

which resulted as follows:

President.—Dr. T. A. Harris, of Parkersburg.

Vice-Presidents.—Dr. A. H. Kunst, of Weston; Dr. J. F. Lanham, of Newburg; Dr. J. L. Fullerton, of Charleston.

Secretary.—Dr. Samuel L. Jepson, of Wheeling.

Treasurer.—Dr. John A. Campbell of Wheeling.

Board of Censors.—Drs. John L. Dickey, C. C. Hersman, J. T. Carter, H. N. Mackey, A. F. Stifel, Fleming Howell, and L. D. Wilson.

Charleston, Kanawha County, now the capital of the State, was unanimously chosen as the *next place of meeting*, and Dr. J. L. Fullerton, of that city, was appointed Chairman of the Committee of Arrangements.

After the usual votes of thanks for courtesies extended, the Society adjourned.

THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Thirty-sixth Annual Meeting, held at Scranton, May 27, 28, and 29, 1885.

(Specially reported for THE MEDICAL NEWS.)

THE PRESIDENT, DR. EZRA P. ALLEN, of Athens, Bradford Co., occupied the Chair, and called the Society to order.

Dr. I. F. Everhart, Chairman of the Committee of Arrangements, delivered an address of welcome on behalf of the profession of Scranton, and the Hon. Alfred Hand on behalf of its citizens.

DR. HENRY H. SMITH, of Philadelphia, announced the receipt of a telegram from Harrisburg stating the passage of the Bill for the establishment of a

STATE BOARD OF HEALTH.

The following resolutions were then adopted:

Resolved, That this Society has learned with great satisfaction of the final passage through the Legislature of this State, of the Act to create a State Board of Health, and that it hereby tenders its thanks to the Hon. Robert Adams, Jr., Senator from Philadelphia, and to the Hon. Henry K. Boyer, Representative from Philadelphia, for their earnest, untiring, and successful efforts to secure to the people of this great Commonwealth so important a safeguard as is anticipated from the organization of this Board.

The Committee on the State Board of Health presented its report, and on motion it was accepted, and the expenses of the Committee, \$49.25, ordered to be paid, and the Committee was discharged with the thanks of the Society.

The next order of business was the consideration of the

AMENDMENT TO THE CONSTITUTION,

presented by Dr. Allis (see page 46 of the volume of *Transactions*, for 1884). After the reading of a letter from Dr. Allis advocating their adoption, the amendments were laid upon the table.

DR. TYSON, of Philadelphia, on behalf of the Committee on the

COLLECTIVE INVESTIGATION OF DISEASE,

read a preliminary report on pneumonia based upon returns from sixty cases which occurred up to May 1st.

MEDICAL LEGISLATION.

DR. H. H. SMITH, of Philadelphia, offered the following:

Resolved, That any county society that shall hereafter seek general medical legislation at Harrisburg, without previously obtaining the consent thereto of the Medical Society of the State of Pennsylvania, shall forfeit all its privileges and connection with this Society, until relieved from their contempt by the report of the action of the Judicial Council.

DR. TRAILL GREEN, of Easton, favored the resolutions heartily, and was especially glad there was a penalty attached to them.

DR. J. SOLIS COHEN, of Philadelphia, moved that the following clause be introduced after the word Harrisburg—"which shall compromise the interests of the State Society."

A general discussion followed, after which the amendment was laid upon the table.

The original motion, which was stated by Dr. Smith to be a standing resolution, not a by-law, was then adopted.

DR. S. S. SCHULTZ, of Danville, in the absence of Dr. John C. Curwen, then read the report of the

COMMITTEE ON LUNACY AND IDIOCY.

The Committee report that, though a large number of questions calculated to obtain histories of different forms

of mental disorder, were sent out to members of the profession in different parts of the State, the answers received have been so few that, though they are excellent in themselves, they are not sufficient for purposes of generalization, and the Committee begged leave to present the following report on the general

MANAGEMENT AND TREATMENT OF MENTAL DISORDERS IN THE EARLY STAGE,

in place of the report on different forms and characters of mental disorders.

Treatment, in the earliest stages is important and essential to restoration—the earliest symptoms are peculiar restlessness, and singular ideas and actions. These may be slight—but, when out of the usual course of conduct and mental action, they must be considered as indication of disordered action, and if allowed to progress more serious disorders must be soon anticipated.

Inability to attend to casual duties, loss of sleep, failure of appetite, etc., are other symptoms, but the most serious is loss of sleep. Sedatives and narcotics are not the most efficient means to effect a cure of these symptoms. If their use be continued for some time, they are apt to lead to a habit of reliance on them, which, after a time completely enslaves the patient and leads to serious disorders of the stomach and constipation; and they produce such a state of the nervous system as greatly interferes with the processes of assimilation and creates a morbid condition, for which no special name has yet been found, but which is of serious import to the continuance of healthy action.

The whole system, or more particularly the nervous system, is in an asthenic state which cannot be relieved, but is rather increased by sedatives and narcotics, so that other more efficient means must be used to build up and produce a more healthy action and condition. Care must be taken to relieve constipation which is so constant a concomitant of each case, and this must be done in the first place by the use of such medicines as will act on all the internal organs, and after their free operation, dependence must be placed on diet; the use of such articles as are nutritious and at the same time have a relaxing influence, as oatmeal Graham bread, fruit, etc., and above all, insisting on the establishment of regularity in the time of visiting the closet, fixing the specified hour and adhering to it very steadily.

Massage over the region of the colon, and a plain, nutritious diet of meat and vegetables at regular times, are important. Too much stress is often laid on exercise. Asthenic cases should husband their strength, and strength must not be sought at the expense of nerve power.

It may be necessary, at the commencement of treatment, to give sedatives to produce sleep, but such should not be continued steadily.

One great deficiency, to judge from what has come within the writer's experience, arises from the disposition to be constantly changing the form and character of the medicine, not giving any one sufficient trial to produce a decided result. It may take days or weeks to produce a decided effect, and the patient must be urged to persist in the treatment prescribed. Pyrophosphate of iron is cheap, soluble, and pleasant to the taste, especially when combined with compound tinc-

ture of gentian. The use of stimulants should be ordered in asthenic cases. They may produce a temporary feeling of relief, but afterwards the immediate condition is rather increased or made more sensible to the individual.

AFTERNOON SESSION.

DR. S. S. SCHULTZ, of Danville, delivered the *Address on Mental Disorders*.

DR. J. G. RICHARDSON, of Philadelphia, then delivered the *Address on Hygiene and State Medicine*.

DR. CHARLES S. TURNBULL, of Philadelphia, then delivered the

ADDRESS IN OTOTOLOGY.

He deprecated syringing, and the use of water in any way, in connection with cleansing of the external auditory meatus. He urged parents to cease their efforts to cleanse children's ears by the use of soap and water, twisted up corners of wet towels, handkerchiefs, etc. One especially valuable hint to mothers, as well as to those who are to advise them, is that concerning the rearing of young children, whose noses are usually allowed to take care of themselves. Every child should be taught to blow its nose. If it has not been or cannot be taught to free the nostrils of mucus, its chances for retaining hearing power in case of acute or subacute disease of the middle ear, are much poorer than in the case of one who has learned to blow its nose. Handicapped by being unable thus to free its nostrils, a child cannot possibly inflate the tympanum or middle ear, and clear the Eustachian tubes, so that the dread exanthema must as a rule mean deafness. Forcible dilation, by Politzer's method, is generally sufficient in the case of adults, but will not answer for children, who only become demoralized and terrified by the presence of any one who has been so injudicious as to attempt its use. For children he recommends one nozzle of an ordinary auscultation tube, protected by a perforated "lead pencil rubber cap," slipped upside down over it. This is called the nose-piece, and can be held firmly, as it plugs one nostril, and acts as a point of support upon which to close the other. As the child cries lustily or else blows out, (as if to blow out a light) the surgeon having the nozzle at the other end of the tube, in his mouth, blows a quick, short blast which invariably inflates both ears. Once assured that the procedure does not cause them pain, children enter into the spirit of it, and blow with a will.

The great secret in the treatment of all discharges from the ears, is dependent upon the fact that fermentation and putrefaction soon occur in the moist auditory meatus. So long as a discharge is not allowed to ferment it will not become fetid, seldom even purulent.

Eczema (otitis externa eczematosa) of the auricle, and external auditory meatus, whether in a child or in an adult, is generally a disease of neglect or injudicious interference. In children it is apt to be the former cause, in adults the latter, but it is usually induced by the use of soap; in adults it is generally caused by meddlesome attempts at ablation. In children eczema readily yields to treatment, providing soap and water be left out of the question, while in adults it is more persistent and stubborn, recurring monthly, perhaps, for several years. Mild cases yield to the constant application of a weak mercurial ointment, while chronic

cases require the application of a saturated solution of nitrate of silver.

Boric acid, if properly used, still holds its own as a specific for chronic otorrhœa, but not for acute otorrhœa (except when the discharge is fetid). This latter class of cases calls for an "aqueous boracic acid solution."

In the treatment of "tinnitus aurium" the different preparations of the erythroxylin coca are to be especially lauded, not only because of their direct local effect on the throat and rhinopharynx, but also for their anæsthetic effect on the mucous membranes generally. In this connection, hydrobromic acid in conjunction with bromide of sodium is not to be forgotten, especially in cases of tinnitus due to disorders of cerebral circulation dependent upon nervous irritation.

Dr. Turnbull called especial attention to a disease (not unlike boiler-maker's deafness) which he styles "mill-operative's deafness." This is a disease of the auditory nerve, caused by a prolonged succession of concussions (*erschütterung*) and irritation from the rattle and din of machinery, the first grave and characteristic symptom of which is the power of being able to hear distinctly only when in a noise.

DR. EDWARD JACKSON, of Philadelphia, read a paper on the

DIAGNOSIS OF INCIPIENT CATARACT.

Cataract, though perfectly amenable to treatment, is still one of the most dreaded diseases of the eye. This is mainly because it is blamed for the effects of other lesions. This would be largely avoided if practitioners of medicine were generally more skilful in its diagnosis. Subjective symptoms are of little importance except as they point to other affections complicating cataract. In this connection it should always be borne in mind that the uncomplicated advance of cataract is absolutely painless. The results of examination of the pupil by oblique illumination are often inconclusive or unreliable: The best way to detect partial opacity of the crystalline is to throw into the eye the light from an ophthalmoscope mirror, and then to look at the general red glare obtained from the back part of the eye. In doing this, the surgeon looks through the suspected lens, and all opaque portions become noticeable as black spots, lines, or patches in the red circle of the pupil. For such an examination no costly ophthalmoscope is needed. Any piece of looking glass, with a hole scraped in the silvering for the observer to look through, suffices perfectly.

But when lens opacity has been recognized, the diagnosis of cataract is only just begun. The practical question is, Does the lens opacity cause the symptoms complained of? Incipient cataract may be present and cause no inconvenience whatever. On the other hand, when cataract exists other lesions of the eye—nerve atrophy, choroiditis, or ametropia—are very apt to be present. The complete diagnosis of cataract demands ability to recognize all conditions that may impair vision, with the judgment and information necessary to assign to each its proper share in the causation of the patient's symptoms. The best measure of the extent to which lens opacity interferes with a patient's seeing is the extent to which it interferes with the surgeon's inspection of the optic disk and retinal vessels of the affected eye.

DR. PETER KEYSER, of Philadelphia, read a communication from a Committee of the Lackawanna County Medical Society relative to the case of a man in Scranton, who had registered a diploma from the Western Reserve College endorsed by the Dean of the Homœopathic College of Philadelphia. He then offered a resolution condemning the endorsement of such diplomas.

DR. BISHOP replied that the men who will endorse diplomas of no value, would pay no respect to the wishes of this Society.

Upon motion of Dr. Bishop, the resolution was laid over until to-morrow morning.

Adjourned.

THURSDAY, MAY 28TH.—SECOND DAY.

MORNING SESSION.

DR. EDWARD JACKSON, of Chester Co., read the report of the Committee on

MEDICAL EDUCATION,

appointed to prevent downward competition in the granting of a State license; to relieve medical schools of the degrading influence such competition exerts; to regulate the licensing of those obtaining the medical degree from institutions outside the State; to guard by publicity and direct control against abuse of the licensing power, and to insure the efficient administration of laws looking to these ends. The report recommends that this Society endorse and advocate before the people of Pennsylvania and their representatives in the State Legislature the following propositions:

First. The sole power of granting license to practise medicine in Pennsylvania should be vested in a single board.

Second. This board should have no connection with any corporation engaged in medical teaching.

Third. The doings of this board, including the determination of the fitness of applicants for the license to practise, should be public and matters of record, and the records open to public inspection.

Fourth. To secure the efficiency of the board against incompetent membership, and the undue pressure of partisan politics, the medical profession or its representatives, should nominate to the Governor a list of persons qualified to perform its duties, from which list the board should be appointed.

It is also recommended that a committee be appointed to prepare, in accordance with the views of this Society, a form of bill suitable for presentation to the next biennial session of the Legislature, and report the same to the next annual meeting.

DR. H. H. SMITH, of Philadelphia, moved that the resolutions of the Committee be taken up seriatim. Carried.

DR. SOLIS COHEN, of Philadelphia, offered, as an amendment, to insert the word "regular" in the first resolution, so as to make the resolution read, "The sole power of granting license to practise regular medicine," etc. He said this will prevent the practice of anything else, otherwise we have to associate with homœopaths, eclectics, etc., with whom we do not affiliate.

DR. R. S. SUTTON, of Pittsburg, could not see how the amendment would improve affairs. He did not believe that the Legislature of this State would pass any such law as the amendment proposed.

DR. E. A. WOOD, of Pittsburg, said that no law ever became beneficial which was not from the people, and he thought this Society ought simply to ask for legislation for our own school which will control our own ranks, and wait for the voice of the people for more.

DR. JACKSON, of Chester, said that to ask for legislation for ourselves only would be impertinence on our part. The question is for the good of the community. On *à priori* grounds the original resolution is better than the amendment. In California and Kansas there is a mixed board. Should we adopt the amendment we would defeat our own object. The medical laws of Canada allow a mixed board.

PROF. OSLER, of Philadelphia, upon request, briefly related the effect of the laws in Canada. In Ontario a mixed board of regulars, homœopaths and eclectics, was instituted twenty years ago. The basis of the board was its being appointed by the profession. The examinations are of threefold nature: 1st, a preliminary examination on preliminary branches; 2d, examination on branches common to all schools; 3d, one on therapeutics and practice by each school. This has worked admirably, the eclectics have been abolished, and the homœopaths have been decreased, for the reason that it requires a four years' preliminary education. In Quebec, the population being chiefly composed of French-Canadians, the people are all very rugged, and the homœopathic medicines are of no avail in treatment, hence there are but very few homœopaths there. Concerning an inquiry by Dr. Smith as to whether the difference in the Government of Canada and the United States would not make a difference, he said none whatever, because the board is wholly under the control of the profession.

DR. TRAILL GREEN said he thought the Society should not be in a hurry to act on these resolutions, but sleep over them three hundred and sixty-five nights, and appoint a committee to draft a form of bill to be discussed at the next meeting.

DR. JOHN B. ROBERTS, of Philadelphia, spoke against the amendment, saying, if we cannot take care of ourselves without the Legislature and the Governor he did not wish to practise. He placed it on higher grounds, and would advocate a proposition for the protection of life and health. We must have a board to do this, and he did not think that the association with members of irregular schools would have any bad effect. There are but two unmixed boards in the United States (Virginia and West Virginia).

DR. TYSON, of Philadelphia, also spoke in favor of a board which should be entirely independent of the colleges.

On motion, the amendment was laid on the table.

DR. W. D. KEARNS, of Pittsburg, moved to postpone the further consideration of the report until next year. Lost.

The first resolution was then taken up and carried.

The other resolutions were then adopted seriatim.

THE SECRETARY stated that at the last meeting of the American Medical Association an act for the establishment of a

STATE BOARDS OF EXAMINERS

was prepared for submission to each State Society for their views upon it. He read a draft of the same.

On motion it was referred to a special committee of five. The Chair appointed the following: Drs. Shakespeare, of Philadelphia, Orth, of Harrisburg, Everhart, of Scranton, Breinig, of Bethlehem, and Price, of West Chester.

On motion, the Committee on Medical Education was continued for another year.

DR. TAYLOR, of Wilkesbarre, then read a paper on *The Plymouth Epidemic*.

DR. FRENCH, of Philadelphia, followed with a paper prepared by DR. SHAKESPEARE and himself on the same subject.

AFTERNOON SESSION.

The report of the Nominating Committee was read, and on its adoption the following were elected

OFFICERS FOR THE ENSUING YEAR:

President.—E. A. Wood, M.D., of Allegheny County.

Vice-Presidents.—Hiram McGowen, M.D., of Dauphin County; E. J. Russ, M.D., of Elk County; A. H. Sheaffer, M.D., of Mifflin County; and C. C. Halsey, M.D., of Susquehanna County.

Permanent Secretary.—W. B. Atkinson, M.D., of Philadelphia.

Recording Secretary.—G. D. Nutt, M.D., of Lycoming County.

Corresponding Secretary.—J. H. Musser, M.D., of Philadelphia.

Treasurer.—Benjamin Lee, M.D., of Philadelphia.

Members of the Judicial Council.—J. L. Stewart, M.D., of Erie County; S. S. Schultz, M.D., of Montour County; and Henry H. Smith, M.D., of Philadelphia.

Chairman of Committee of Arrangements for next Meeting.—T. H. Helsby, M.D., of Williamsport.

The next meeting will be held on the first Wednesday of June, 1886, at 9 A.M., in Williamsport.

THE ADDRESS IN MEDICINE.

was then read by DR. E. T. BRUEN, of Philadelphia.

In tubercular disease, he said, it has been established that a microörganism, the bacillus of tuberculosis, is constantly present. The inoculability of the tubercular material from pure cultures is also proven, and its causal importance is claimed by an increasing number of clinicians and pathologists. It is, however, a fact that healthy tissue can resist the inroads of the microbe, and constitutional predisposition or acquired ill-health is a constant source of menace if the new etiology should prevail. But there also exist cases of abdominal tuberculosis without pulmonary lesion, and even cases of cheesy degeneration in the lungs, in which the bacillus is not present, however careful the search. These cases radiate foci of infection through the lymphatic channels, and in this manner differ from a case of tubercular matter in which a bacillus exists, for in the latter case the entire system may be involved. There also exist the forms of interstitial phthisis, known as pneumonokiosis or artisan's phthisis, in which the appearances are often very similar to the admittedly tubercular forms, but which are minus the bacillus.

Some personal views were expressed as to the diagnosis of friction over the pericardium, viz.: (a) They were synchronous with the movements rather than the sounds of the heart. (b) They were superficial sounds often accompanied by a fremitus. (c) Change of pos-

ture induces an increase of murmur. (d) The alterations common to the walls of the heart in endocardial disease were absent. The above were usually noted, but especial importance was laid upon the location of maximum intensity of a murmur in pericarditis which does not correspond with a valve point. The pericardial murmurs also change their focus of maximum intensity very often.

In alluding to antipyrine, it was described as undoubtedly efficient as an agent to reduce temperature, which continued to fall for about six hours after the exhibition of one or two doses. The objection to its use is the profuse exhausting perspirations to which it gives rise, and it also produced a depressing effect upon the heart, though the latter is less than the depressant effect produced by others of the carbolic acid series. The usual dose employed by the speaker is ten grains, as the strength of antipyrine is about twice that of quinine. Nitro-glycerine had been found valuable in lessening albuminuria associated with increased arterial tension, but its use must be watched, since it is possible that the reduction of arterial tension may be so great as to impair the cardiac power so essential to perfect circulation in renal processes, and thus albuminuria from feeble circulation would occur. Nitro-glycerine was also considered as very useful in renal asthma. Caffeine was a safe cardiac stimulant and diuretic. The dose should range between eight to twelve grains daily. A peculiar fanciful delirium, like that produced by excessive amounts of belladonna, was described as an occasional symptom when caffeine had been used continuously; the mental equilibrium is speedily restored when the use of the drug is suspended.

DR. H. H. SMITH, of Philadelphia, read a paper on

THE NON-CONTAGIOUSNESS OF CHOLERA.

DR. SHAKESPEARE, of Philadelphia expressed himself as heartily in accord with the author except as to the question of non-contagion; strictly, that is right, as it is not directly contagious. He thought, however, that it is indirectly transmissible from person to person. The fact that persons working about cholera patients do not contract the disease merely proves that it is non-contagious through the air. Observations are overwhelming which prove that cholera has a virulent infectious agent, which enters the water or food and the body through them by the oral passages or stomach. The susceptibility lies in disorders of the digestive system, which explains why drunkards are so susceptible to it, as was demonstrated in Europe last year. As to the comma-bacilli, the profession must be able to distinguish the varieties. In the advocacy of measures for the protection of the public, it is well to allay the fears of the people, but the only way to reach proper legislation on the matter is to create popular sentiment in favor of it. Neither Koch nor any one else would say that any disinfectant will reach the special organism of cholera when once in the body, and it is unfair to demand that of Koch.

DR. VARIAN, of Crawford, stated that his experience made him coincide with the non-contagionists, but he believed that the comma-bacilli from the excreta of patients of cholera acted upon by fermentation and brought in contact with the water or food will generate cholera. It matters but little how we get cholera, whether by

immediate contact or through the food, our duty is to seek how to keep the contagium outside the body, and he thought this can be done by a proper mode of living, and by avoiding alarm and panic, with their influence upon the nervous system. The simple application of heat will destroy the cholera contagium.

DR. HEEBNER, of Scranton, called attention to the fact that the cholera germ is supposed by good authorities to be killed by putrefaction.

DR. W. F. WAUGH, of Philadelphia, read a paper on

A NEW TREATMENT OF THE ALCOHOL HABIT.

The treatment of acute alcoholism, he said, is generally successful; but, except in a very few cases, the patient relapses into inebriety, and finally dies a drunkard. The disease is not, however, essentially incurable; for cases do sometimes recover permanently. The causes of the relapses are:

1. Previously existing disease, which led to drink.
2. Overwork, especially when combined with illness.
3. Gastric catarrh, due to alcohol.
4. Catarrh of the mouth, due to the same cause. This is the form which is popularly cured by using liquor as a gargle, instead of drinking it.
5. The depression due to the withdrawal of the accustomed stimulus.

In the first and second classes, the recognition of the cause affords the indication for treatment.

In the third class, the remedies recommended are hot water with soda before meals, oxide of silver, oxide of zinc, or bismuth following, and minute doses of ipecacuanha to restore the secretion of the digestive glands.

In the fourth and fifth classes, the use of coca is recommended, in the form of a masticatory; to obtain the local effect on the mouth, as well as the constitutional effect, in relieving the depression. The object is to substitute for the alcohol habit the harmless habit of chewing coca. The food should be carefully regulated, and should at first consist of raw oysters or beef, with capsicum and vinegar, pickled tripe or pig's feet. If the patient has passed the point when he still desires to be cured, and is unwilling to make an effort, he should be put under restraint; preferably in an institution where he could be compelled to earn his livelihood, instead of spending the time in enervating idleness.

DR. SPENCER M. FREE, of Daguer Mines, read a paper on *Morphia in Cholera Infantum*.

DR. JOHN H. PACKARD, of Philadelphia, presented a paper on

A NEW TRACHEOTOMY TUBE,

and demonstrated the use of a new apparatus for keeping the opening patulous.

PROF. PANCOAST stated that for years he had given up the use of the tracheotomy tube. The trachea is an open tube, the rings are its skeleton; take away one-half those rings, and the trachea still maintains its conformity. To put a tube in a tube seemed to him absurd, and it is only a source of irritation. He splits one or two rings and keeps the opening patulous by wires about the neck, the ends simply drawing asunder the sides of the opening. Sometimes he cuts an oval opening in the trachea.

Dr. Packard thought that as all surgeons are not able dexterously to cut out an oval piece from the trachea, the best rule is to make a lineal incision, and he

thought his instrument better than the tube, if for no other reason, than because it has not to be taken out, and is easy of insertion.

DISCUSSION OF THE PLYMOUTH EPIDEMIC.

DR. SHAKESPEARE, of Philadelphia, thought that the Plymouth epidemic is a clinching argument in favor of the specific nature of typhoid fever, and that it requires the specific germ or poison to start it. This has a very important bearing. It specifies that the specific cause is elaborated in the gut, and passes from the bowel, and through carelessness in disinfection reaches various things which, in turn, infect the community. Again it shows the absolute importance of precautions to kill the poison. Efficient means will prevent the transmission of the typhoid germ. He thought that printed rules for disinfection should be distributed among the people. The water should be boiled, food thoroughly cooked, milk boiled, culinary utensils, etc., all should be boiled in water of a temperature over 212° Far., for at least half an hour. The profession should instruct the laity on these subjects. A few days ago in visiting Plymouth he found only limited means of disinfection being used. If all the above measures were carried out, he thought the epidemic would cease. The lesson which this epidemic has taught the profession is that no case of typhoid fever, no matter where it be found, should be allowed to run its course without every evacuation being disinfected.

In the evening DR. ALLEN delivered *The Presidential Address*

FRIDAY, MAY 29TH.—THIRD DAY.

MORNING SESSION.

DR. C. A. RAHTER, of Harrisburg, not being present, his *Address on Obstetrics* was read by title.

DR. W. D. KEARNS, of Pittsburg, read a paper on

RETROFLEXED SPLINTS FOR FRACTURES OF THE FOREARM.

which, it was claimed, give greater ease to the patient and efficiency in causing the parts to knit and heal in proper shape. In his experience he has found that in many, if not most, cases of fracture of the forearm or wrist, the splint should be applied so that the metacarpal phalanges of the hand may be bent upward from the plane of the arm, at an angle of about 122° , and that it should be left as free to move as possible. This is about the natural inclination of the human hand, or that in which the posterior muscular tendons are most completely relaxed, and the continued maintenance of this relaxation of the several tendons, fasciæ, and ligaments is of paramount importance in the class of fractures above noted. It is the purpose of this splint to secure these points of advantage, and especially to effect a ready and comfortable maintenance of the required muscular relaxation of the extensors and flexors to their insertion along the phalanges, and of the muscles and fasciæ of the hand and thumb.

DR. JOHN H. PACKARD, of Philadelphia, said that in Colles's fracture the immediate bandage does no harm, neither does it do good. If reduction is thoroughly accomplished, it is very seldom that displacement will recur, and almost anything will hold the ends in place.

DR. J. B. ROBERTS, of Philadelphia, thought that permanent disability after these fractures was much

more common than Dr. Packard would have us think. He believed that Bond's splint was the cause of many deformities, and he coincided with the idea that a simple Colles's fracture once thoroughly reduced needs no splint.

The Special Committee, to which was referred the communication from the American Medical Association concerning

A STATE BOARD OF MEDICAL EXAMINERS,

reported the act back to the Society with the recommendation that it be referred to the Committee on Medical Education, with the request to take it into consideration when framing a bill.

DR. SOLIS COHEN thought the American Medical Association should receive an answer from this Society to its communication.

After considerable discussion the following was adopted:

Resolved, That the Secretary of this Society report to the American Medical Association that the Medical Society of the State of Pennsylvania had adopted its recommendation.

On motion, the resolution passed last year, forbidding the

PUBLICATION OF PAPERS

read before this Society, was rescinded.

DR. CHAS. MEIGS WILSON, of Philadelphia, read a paper on *Mechanical Dilatation of the Uterus*.

DR. E. A. WOOD, of Pittsburg, then read *The Address in Surgery*.

DR. HEWSON, of Philadelphia, then read a paper on *The Topical Uses of Earth*, and also gave a demonstration of the *Use of the Electric Light in Diagnosis*.

PUBLICATION OF THE PROCEEDINGS.

The following resolutions were then introduced:

Resolved, That the proceedings of this Society be published in some medical journal of the State.

Resolved, That the Publication Committee are hereby authorized to receive proposals and award the publication to the lowest bidder, and that the journal so selected shall be regarded as the official organ of this Society.

Laid over for one year.

TRAINING SCHOOLS FOR NURSES.

DR. MUSSER, of Philadelphia, offered the following resolutions, which were adopted:

Whereas, The State Society of Pennsylvania, in session in Scranton, have learned of the efforts of the management of the Blockley Hospital to establish a training school for nurses, and, whereas, the establishment of a temporary hospital in the fever-stricken districts of Plymouth has been the first practical outcome of their efforts, therefore be it

Resolved, That this Society extend its thanks to the Board of Guardians for its timely and valuable assistance, and most cordially endorse its efforts to establish a training school.

REGISTRATION OF DIPLOMAS.

DR. KEYSER, of Philadelphia, offered the following:

Resolved, That it is the sense of this Society that all diplomas from medical schools in any other State or

country than this, on being registered in this State should be endorsed only by a school of the same system of study and practice as the school granting the diploma.

Resolved, That a copy of this resolution be sent to the prothonotary of every county and to all the medical schools in the State. Adopted.

AFTERNOON SESSION.

DR. H. R. WHARTON, of Philadelphia, read a paper on

OSTEOTOMY FOR CORRECTION OF DEFORMITIES IN LOWER EXTREMITIES.

Under the general remarks upon osteotomy, attention was directed to the two methods employed, the linear and cuneiform operations, and preference was given to the former where possible, as it consists in a simple section of the bone and practically constitutes a subcutaneous operation, whereas the cuneiform operation, in which a wedge of bone is removed, necessitates an open wound with its attending dangers. The use of the osteotome or the saw rests with the choice of individual operators. The importance of making a full correction at the time of operation was insisted upon, especially if a fixed dressing be afterwards employed.

Among the causes which produce deformities for which osteotomy may be required are those arising from rickets, from coxalgia, from badly united fracture, or from unreduced dislocation, and of all these, the vast majority of cases requiring operation are due to the first-named cause.

For the correction of angular deformities at the hip-joint, resulting from coxalgia, Gant's modification of Adams's operation is preferred; that is, a section of the femur just below the lesser trochanter. This operation is preferred because a section of the bone at this point secures its division at a locality where its structure is comparatively healthy, whereas its division through the diseased structure of the neck if it still exists is capable of renewing an active inflammation in tissues which are most susceptible to inflammatory accidents following traumatism. Also from the fact that the shaft of the femur can no longer be influenced by the action of the *psoas magnus* and *iliacus* muscles, the chances to re-correct deformity are less when the section is made at this situation.

Adams's saw has, in the author's experience, formed a most satisfactory instrument, although some operators speak with equal favor of the use of the osteotome in performing these sections.

The fact that no case has resulted fatally in a large number of cases in the author's experience, speaks well for the general safety of the operation. The results obtained as regards the correction of the deformity are most satisfactory. The various operations which have been devised for the correction of the deformity resulting from *genu valgum*, were considered, and preference was given to Mac Ewen's operation, which consists of a linear section of the femur made from the inner side of the thigh, with the osteotome, just above the epiphyseal line. The ease of its performance, the fact that the section is made at some distance above the knee-joint just above the epiphyseal line, so that the articular surfaces of the bone and the ligaments can sustain no

injury, and the satisfactory results as regards the correction of the deformity, are all circumstances which recommend it over the various other operations.

The various osteotomies for the deformity resulting from ankylosis of the knee-joint were considered, and that devised by Mr. Barwell, a linear section of the femur just above the knee-joint combined with a section of the tibia through its tubercle, has been found most efficient in correcting the deformity.

In *genu varum* a linear section of the tibia, fibula, and femur, with an osteotome at the point of greatest curvature has been found a safe and efficient means of correcting the deformity.

In tibial curves, a linear osteotomy at the point of greatest curvature, or, in very aggravated cases, a number of linear osteotomies, or the removal of a wedge of bone, may be required to produce the requisite straightening.

The use of the plaster-of-Paris dressing to fix the parts after the operation is strongly recommended.

DR. BENJ. LEE, of Philadelphia, read a paper on

"NIL DESPERANDUM" IN SPINAL CARIES.

There are two points that can never be too strongly insisted on in reference to the treatment of spinal caries, or Pott's disease of the spine: First, that it is never too early to begin the employment of mechanical support of the most decided character; and, second, that it is *never too late*.

The wearing of an artificial support, properly contrived, for a few months, can do the patient no harm if the spine is not diseased, but neglect on the part of the physician to advise a resort to this means of treatment when such disease is present will lead to irreparable injury to the patient, and a loss of prestige to the physician himself. It is perfectly easy to recognize the disease long before any deformity shows itself. The principal signs are: sudden attacks of cramping pain in the abdomen or sides, great stiffness on waking in the morning, and inability to stoop forward and touch the floor. There is not generally pain or tenderness in the back, and it is a great mistake to pronounce that there is nothing the matter with the spine because that symptom is absent. If the patient is able to walk, he will turn in one or both toes, and hold his shoulders back and up rigidly. If an infant, it will scream on being moved and lifted. The disease often follows an attack of whooping cough, and can frequently be traced to a fall or other injury. It is *never too late* to begin with the use of mechanical supports. It is the greatest possible error to suppose that strength is needed on the part of the patient in order to bear the application of a surgical appliance. When the vital energies are slowly wasting away in consequence of a local source of irritation, the mechanical support is the plug which stops the leak. Without this, internal medication is as vain as the labors of the fifty daughters of King Danaus, condemned to expiate the awful crime of murdering their husbands on their nuptial night, by filling eternally with water a vessel full of holes.

After the adoption of the usual resolutions of thanks, the Society adjourned to meet at Williamsport on the first Wednesday in June, 1886.

CORRESPONDENCE.

A VISIT TO PROF. MIGUEL'S LABORATORY.

YOUR correspondent sailed from New York on the French steamer "La Normandie" on the 29th of April, and arrived at Havre on the morning of May 8th. At 1 o'clock on the same day the passengers of "La Normandie" were landed in Paris by a special train, which is dispatched upon the arrival of each transatlantic steamer. As my time in Paris was limited, and my principal object in remaining for two or three days in this city was to visit the laboratories of Pasteur and of Miguel, I hastened to put myself in communication with the last-named *savant*, who was known to me not only by reputation, but also through correspondence with our mutual friend, Dr. Maddox, of London, who, as Miguel expresses it, is the father of modern *aëroscopy*, and who has also been very successful in photographing bacteria, and is *au fait* in all that is being done in the different biological laboratories in various parts of the world, where bacteria are especially studied.

Dr. Miguel responded promptly to my letter and, by appointment, I visited his laboratory at the Observatory of Montsouris, on Monday morning, May 10th. He was kind enough to show me in detail his methods, and to give me a summary of the results thus far obtained in his studies of atmospheric organisms. These results have been given in full in the annual reports of the Observatory with which he is connected, and in his book published about a year ago. The results obtained are extremely interesting and of considerable scientific value, but it must be admitted that the painstaking researches thus far made by this very patient and conscientious observer, and by others who have preceded him in this line of study, have not yet been fruitful in practical results. *A priori* it would seem that the presence of disease germs should, by a carefully made research, be demonstrated in an "infected atmosphere." But, as a matter of fact, no disease germ has as yet been discovered by this method, and all exact knowledge of pathogenic organisms which we now possess has been obtained by seeking them in the tissues, fluids, and excretions of infected individuals.

The writer was very much influenced by this idea of finding disease germs in the air when he commenced his bacteriological studies at Havana, in 1879, and much time was spent in this way, which might have been more profitably employed in more direct researches. Atmospheric organisms were collected by various methods in the hospitals, in sewers, on ships, and wherever there was a suspicion that the atmosphere might be infected by the "germ" of yellow fever, but among the crowd of organisms, such as pollen grains, spores of fungi, starch granules, etc., nothing was encountered which seemed to have any special significance with reference to the question under investigation.

Again, in 1880, in New Orleans, I studied the organisms suspended in the atmosphere in the streets, the cemeteries, the hospitals, etc., with a view to making myself familiar with the flora of the atmosphere in the absence of any epidemic disease and thus, if possible, being prepared subsequently to recognize any foreign morbid germ which might be present during an epidemic. These studies simply served to convince me

that this method of research was invested with so many technical difficulties, complications, and possibilities of error, that I would spend my time more profitably in seeking disease germs at their source, for, after all, so far as we know, they, as well as the other organisms present in the atmosphere, are simply there as the result of accident; that is to say, they do not find their normal habitat in the atmosphere and multiply there; but they are simply wafted about by the wind when the material containing them becomes desiccated, and is raised from the surface of the earth, or is shed from the surface of the body of infected individuals. In this respect they do not differ from the inorganic material known as "dust," with which they are associated, and the laws governing the distribution, seasonal or diurnal abundance of atmospheric bacteria cannot differ greatly from those which cause the amount of "dust" to vary according to the direction of the wind, the relative position of its source as regards the point of observation, etc. If the wind comes from the direction of a pine forest when the pollen is being shed, the *aëroscope* will show the presence of a multitude of peculiar shaped bodies, which are in fact the pollen of the pine tree; if it comes from the direction of a city street during the time when this is crowded with vehicles, it will be apt to contain a large amount of "street dust;" if it comes over the surface of a desiccated swamp it will contain encysted infusoria, unicellular algae, bacteria, etc.

I would not have it understood that I underestimate the value of such researches as Miguel is engaged in. They have a value comparable with that of carefully made meteorological observations relating to temperature, pressure, direction of the wind, etc. But, in my opinion, altogether too much has been expected from studies of this kind by those who are especially interested in pathological and sanitary questions. Miguel admits that it is impossible by the use of the microscope alone to distinguish with certainty the germs of bacteria present in the atmosphere, from certain non-living particles associated with them, and that it is only by culture methods that they can be distinguished and enumerated with any degree of precision.

The method which, after extended experiments, he has found to be most satisfactory, requires a well-equipped laboratory, and the expenditure of an enormous amount of time and patience. By this method a skilled observer may make a complete biological analysis of the atmosphere of a given locality, and by analyzing samples collected at different hours of the day may determine the diurnal variations as to the number of living bacterial germs present, etc. The method, in brief, consists in aspirating a given quantity of air through a tube provided with a filter of sterilized cotton, in washing the germs from this filter with distilled water, and in adding this to a sterilized culture-medium, which is distributed in a large number of germ-proof receptacles. The number of germs in the quantity of air passed through the filter is determined by the number of these cultures which are fertilized. When only two or three tubes out of twenty, for example, break down, it is assumed that these have each been fertilized by a single germ, and this is taken as the basis of a calculation of the number of germs per cubic metre of the air examined. If, however, a majority of

the tubes break down, it may be that several germs have been introduced into each, and it will be necessary to repeat the experiment, and to distribute the germs trapped by the cotton filter in a larger amount of fluid, distributed in a greater number of separate receptacles.

The interesting and valuable series of experiments made by Miguel to determine the antiseptic value of various chemical agents was terminated some time ago, and the results are published in the annual report of the Observatory for 1884.

Miguel has recently been experimenting with a new material for surface cultures, which he considers to be superior to the agar-agar gelatine for his purpose, and which forms a jelly that does not liquefy even at a temperature of 50° C. The material employed in making this jelly is the *Fucus crispus*, or white lichen. This is digested three-quarters of an hour in bouillon, in the proportion of twenty-five grammes to the litre; it is then boiled for a short time, and filtered, *hot*, first through a wire gauze, and then through a filter of coarse linen. The sterilized jelly prepared in this way is quite transparent, and M. Miguel assures me that it furnishes an excellent culture medium for bacteria of various kinds.

Miguel is still a young man, about 35, and with his robust constitution, enthusiasm, mechanical skill, and indefatigable perseverance, he will, no doubt, do all that one man can do in a single locality for the advancement of that branch of science—Aëroscopy—which he has made his specialty, and in which he is at present beyond question the highest authority. This letter has already reached such a length, that, in justice to myself and to the readers of *THE NEWS*, I must postpone an account of my visit to Pasteur's laboratory for another communication.

G. M. S.

PARIS, May 12, 1885.

NEWS ITEMS.

CONGENITAL ABSENCE OF THE RADIUS AND POLLEX OF BOTH ARMS.—Dr. C. A. Wilson, of Atlanta, Ga., writes us that there was brought before him, on the first of May, a child, four months of age, in whom there was congenital absence of radius and pollex of each arm. Through the contraction of the muscles of the forearm the hand was rotated inwards and drawn upwards on the inferior extremity of the ulna, and the ulna itself considerably curved in its lower half. There was almost no power of flexion and extension of the fingers, and anything offered the child was grasped between the index and middle fingers. Of course, the lacking radii precluded the hope of accomplishing much by any manner of treatment.

MEDICAL SCHOOL OF MAINE.—The graduating exercises of the class of 1885, took place on Wednesday, May 27, at 9 o'clock, A.M., in Memorial Hall, Brunswick. An address was delivered by Weston Thompson Esq., of Brunswick, and the parting address to the class by A. C. Gibson, of Bangor. After the parting ode the degree of Doctor of Medicine was conferred upon fourteen graduates, and the diplomas were presented by Prof. Alfred Mitchell.

At noon of the same day was held the second annual meeting and reunion of the Medical Alumni Associa-

tion. The retiring President, Dr. F. C. Thayer, of Waterville, delivered a short address. The Alumni are determined that the school shall enjoy better clinical advantages, and insist upon its removal to Portland, as soon as necessary expenses can be met.

A committee of conference, appointed last year, to consult with the faculty and trustees was continued, and it is probable that steps will be at once taken to found an alumni fund.

The officers for the ensuing year are:

President.—S. Laughton, M.D., of Bangor.

Vice-Presidents.—R. D. Bibber, M.D., of Bath; C. A. Peaslee, M.D., of Wiscasset.

Secretary.—Charles D. Smith, M.D., of Portland.

Treasurer.—F. H. Gerrish, M.D., of Portland.

AN ADIRONDACK SANITARIUM.—A charitable institution known as the Adirondack Cottages for the treatment of pulmonary diseases, was opened near Saranac Lake, New York, on May 15th. The aim of this undertaking is to offer to patients of limited means and attacked with incipient phthisis all the advantages to be derived from a change of climate, a quiet outdoor life, and proper medical treatment. It is not meant as an asylum for hopeless cases, and none but patients whose chances of recovery seem reasonable will be admitted. The cottage plan has been adopted, and nothing has been neglected to insure the best hygienic conditions possible. Each cottage is to shelter two patients only, their meals being served in the main building. The location is a most happy one, embodying beautiful scenery, a dry, well-drained soil with a sunny exposure, and moderately high elevation about the surrounding country.

A charge of five dollars a week will be made to each patient, which will include everything, even washing. Dr. A. L. Loomis, of New York, is the examining physician, who will pass upon applications, making examinations free of charge. Should patients, however, find it impossible to see him personally, the application can be made by letter to Dr. E. L. Trudeau, Saranac Lake, Franklin Co., N.Y. It should contain a description of the applicant's case by his own physician, giving information on the following points; Family history, duration of disease, pulse, temperature, and respiration in P.M., weight in health at time of examination, amount of cough and expectoration, and some remarks upon the amount of dyspnoea on exertion, strength, and general condition of patient. Besides this the results in detail of a physical examination of chest should be given. No charges will be made at any time for medical treatment.

A PROFESSORSHIP OF SANITARY ENGINEERING.—The trustees of Columbia College, New York, at their meeting on June 1, decided to establish a chair of Sanitary Engineering in the School of Mines. The proposition has been talked of for several years, and in view of the growing practical importance of the subject it was decided best not to defer it longer. The new course will begin in October. Dr. J. S. Billings, Surgeon U. S. A., who has delivered several courses of lectures at the College, has been appointed to deliver the lectures on hygiene. He will be assisted by an expert in microscopic study, and in the study of microbes. The trustees appropriated the money for this purpose and for plans and drawings for the work.

INOCULATION FOR CHOLERA.—Dr Ferrán, having heard that Dr. Cameron, M.P. for Glasgow, had asked a question in the House of Commons about his investigation, has sent that gentleman a telegram giving the results of a great test experiment which is at present being conducted by him, under the eyes of several scientific Commissions, at Alcira, a town near Valencia, where an epidemic of cholera is raging. According to this telegram, the population of Alcira is 16,000, and since the first of the present month 5,432 of its inhabitants have been inoculated with his protective *virus*. That would leave the number of those not inoculated about 10,500; or accepting 16,000 as an exact figure, precisely 10,568. Of the 10,500 persons who are not inoculated, cholera has attacked 64, and proved fatal to 30. Of the 5,432 who have been inoculated, it has, according to Dr. Ferrán, attacked only 7, and proved fatal in no single case. In other words, since the commencement of the experiment on May 1, one person out of every 163 has been attacked among the uninoculated population, and one person in every 352 has died of cholera; while among the inoculated population only one person in 776 has been attacked, and not a single person in the entire 5,432 has died of the disease. In view of the very startling and important nature of these results, Dr. Cameron hopes that either Her Majesty's Government, or some of our great scientific and medical associations, may see their way to sending a Commission to verify them.

The Spanish Minister of the Interior, on being asked in the Cortes on Monday to give Dr. Ferrán a grant in order to enable him to continue his experiments on a larger scale, said he was unable to do so at present, but as soon as it lay in his power he would grant a sufficient sum, although, in his opinion, Dr. Ferrán's experiments had not yet reached a sufficient degree of certainty to prove a complete success. He added that a commission of medical men would be appointed to visit Valencia and other towns, in order to study the experiments that are being made.

A correspondent from Alcira informs a Spanish journal, the *Independencia Medica*, that he has no doubt about the nature of the epidemic, as he has recognized Koch's comma-bacillus in the dejections of a patient. He also states that when Dr. Ferrán first visited the town he "vaccinated" all the boys in an asylum there except two. Now these two have taken the disease, and none of the others. This circumstance has made a strong impression on the people, and their faith in Ferrán's inoculation, as prophylactic against cholera, is unbounded. The journal quoted purposes to reserve a special section in each number for the purpose of reporting Dr. Ferrán's doings.—*Medical Times and Gazette*, May 23, 1885.

INTERNATIONAL SANITARY CONFERENCE.—The International Sanitary Conference met for the first time in Rome on May 20th, and was welcomed by the Minister for Foreign Affairs, Signor Mancini, who said that the duty of the Conference would be to concert preventive measures, to be enforced in each country, to prevent the introduction of communicable diseases, or to stamp them out at their outbreak, and also to make arrangements to adopt a rational and practically useful method for protecting other countries from invasion.

Signor Mancini having declined to be nominated president, Count Cadorna was elected. The Conference adopted the rules in force at the Vienna Conference, constituted its bureaux, and then adjourned until Monday next, May 25th. Dr. Sternberg, delegate of the United States, presented copies of the protocols of the Conference held at Washington in 1881. It has been generally understood that the Conference will sit for about a month at the present time, and that if the business before it is not then completed its sittings will probably be suspended during the hot weather. As we have previously announced, scientific theories and controversy as to the nature of contagion, will be, as far as possible, kept outside the deliberations, and, if the Conference really confines itself to the business before it, there is no reason why it should not finish its work within a month. It has, in fact, only to lay down general principles, already well recognized by all epidemiologists and administrators, and ratified by the Conference at Vienna in 1874.—*British Med. Journal*, May 23, 1885.

DEATH OF PROF. HENLE.—The death of Dr. Gustav Jakob Henle, on the 13th of May, at the advanced age of nearly seventy-six years, removes one of the most famous German scientists. All his life he was an earnest worker, and was the author of numerous volumes, the best known of which is his *Handbook of the Systematic Anatomy of Man*. His contribution to the knowledge of the structure of the kidney completed the work of Bowman and Müller. Early in his career he was an assistant of Rudolphi. Afterwards he taught anatomy and physiology in Zürich and Heidelberg, and in 1852 he was appointed Professor of Anatomy in the University of Göttingen, a position which he filled up to the time of his death.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 26 TO JUNE 1, 1885.

HARTSUFF, ALBERT, Major and Surgeon.—Ordered from the Department of Missouri to the Department of the East.—*S. O. 121, A. G. O.*, May 27, 1885.

BROWN, H. E., Major and Surgeon.—Ordered from the Department of the East to the Department of Missouri.—*S. O. 121, A. G. O.*, May 27, 1885.

BROWN, J. M., Major and Surgeon.—Assigned to duty as Post Surgeon at Fort Omaha, Nebraska.—*S. O. 49, Department of the Platte*, May 29, 1885.

BRECHEMIN, LOUIS, Captain and Assistant Surgeon.—Relieved from Fort Omaha, Nebraska, and assigned to duty as Post Surgeon at Fort D. A. Russell, Wyoming Territory.—*S. O. 49, Department of the Platte*, May 29, 1885.

AINSWORTH, F. C., Captain and Assistant Surgeon.—(Department of Texas.) Ordered for temporary duty in Department of Missouri.—*S. O. 58, Department of Texas*, May 25, 1885.

HELL, WM. A., Captain and Assistant Surgeon.—(David's Island, New York Harbor.) Ordered for temporary duty at Willets Point, N. Y., during absence of Post Surgeon.—*S. O. 121, A. G. O.*, May 27, 1885.

SPENCER, WM. G., Captain and Assistant Surgeon.—Ordered for duty at Fort Sisseton, Dakota Territory.—*S. O. 55, Department of Dakota*, May 20, 1885.

DAVIS, WM. B., Captain and Assistant Surgeon.—Granted leave of absence for one month from May 25, 1885.—*S. O. 122, A. G. O.*, May 28, 1885.